Alfred Baker

Gifting

A.C.S. Baker Award
1988-1991

1990
AWARDS PROGRAM

Dinner and General Meeting

Tuesday, April 24, 1990
Grand Ballroom
Copley Plaza Hotel

199th National Meeting
AMERICAN CHEMICAL SOCIETY

Boston, Massachusetts

Program

Presiding

PAUL G. GASSMAN
President, American Chemical Society

Welcoming Remarks

EDWARD J. BILLO
Chairman, Northeastern Section, ACS

Priestley Medal Address

"Chemistry, Democracy and the Appropriate Response to Environmental Concerns"

ROALD HOFFMANN
Cornell University

Presentation of

Awards Administered by the American Chemical Society

1990
Recipients of ACS Awards*

PRIESTLEY MEDAL

Roald Hoffmann — *Cornell University*

. . . for distinguished services to chemistry.

Paul G. Gassman
President, ACS

* * *

AMERICAN CHEMICAL SOCIETY AWARD
IN PURE CHEMISTRY
SPONSORED BY ALPHA CHI SIGMA FRATERNITY

Peter G. Schultz — *University of California, Berkeley*

. . . for his seminal contributions to bioorganic chemistry, most notably for the discovery of catalytic antibodies.

Paul R. Jones
Grand Collegiate Alchemist
Alpha Chi Sigma Fraternity

*Awards listed in order of date of establishment.

GARVAN MEDAL
SPONSORED BY OLIN CORPORATION

Darleane C. Hoffman — *University of California, Berkeley*

. . . for her many fundamental contributions to the physics and chemistry of the heaviest elements and for her leadership and service in the areas of nuclear and radiochemistry.

Carl Seefried
Director, Olin Chemicals Research Laboratory
Olin Corporation

* * *

CLAUDE S. HUDSON AWARD IN CARBOHYDRATE CHEMISTRY
SPONSORED BY THE MERCK SHARP & DOHME
RESEARCH LABORATORIES

Bertram O. Fraser-Reid — *Duke University*

. . . for his leadership in demonstrating the value of carbohydrates to mainstream synthetic chemistry, and for invigorating carbohydrate chemistry through the application of new principles.

Burton G. Christensen
Senior Vice President, Chemistry
Merck Sharp & Dohme Research Laboratories

American Chemical Society Award in Analytical Chemistry sponsored by Fisher Scientific

Barry L. Karger — *Northeastern University*

. . . in recognition of his penetrating studies of biological separations in biotechnology and molecular biology, and for his efforts in focusing analytical chemistry in these directions.

David Phelps
Product Manager, Chemicals
Fisher Scientific

* * *

The Ernest Guenther Award in the Chemistry of Essential Oils and Related Products sponsored by Fritzsche Dodge & Olcott

Barry M. Trost — *Stanford University*

. . . for his development of new reactions and reagents, novel syntheses of complex molecules, and for the elucidation of reaction mechanisms.

Philip A. Christenson
Director of Research
Fritzsche Dodge & Olcott

AMERICAN CHEMICAL SOCIETY AWARD
IN PETROLEUM CHEMISTRY
SPONSORED BY THE AMOCO FOUNDATION

Robert K. Grasselli — *Mobil Research and Development Corp.*

. . . for his contributions to the fundamental understanding of selective partial oxidation catalysis through molecular-level determination of surface reaction pathways and solid state structural mechanisms, and for his contributions to catalysis technology through his role in the discovery, development, and continued advancement of the commercial synthesis of acrylonitrile by selective ammoxidation of propylene.

Ellis K. Fields
Research Consultant
Amoco Chemicals Company

* * *

GEORGE C. PIMENTEL AWARD
IN CHEMICAL EDUCATION
SPONSORED BY UNION CARBIDE CORPORATION

*George C. Pimentel** — *University of California, Berkeley*

. . . He transmitted his deep understanding and enthusiasm to his research students, to his undergraduate classes, to school teachers and in CHEM Study to high school students throughout the world. He inspired all to learn by discovery.

William P. Samuels
Manager, Corporate Technology
Union Carbide Corporation

*Deceased. The award will be received by Jan Coonrod on behalf of her father.

American Chemical Society Award in Colloid or Surface Chemistry sponsored by The Kendall Company

J. Michael White — *University of Texas, Austin*

. . . for his important contributions to the development of modern surface chemistry, especially his innovative applications of modern surface science techniques to the elucidation of elementary processes in surface chemical reactions.

Ervin R. Shames
President and CEO
The Kendall Company

* * *

American Chemical Society Award for Nuclear Chemistry

Michael J. Welch — *Washington University*

. . . in recognition of his contributions in applied nuclear chemistry, in the application of this discipline in positron emission tomography, and particularly in the identification and proper labeling of radioactive compounds fundamentally important to the understanding of normal and pathophysiology.

Joseph A. Dixon
Chairman, Board of Directors, ACS

AMERICAN CHEMICAL SOCIETY AWARD FOR CREATIVE WORK IN SYNTHETIC ORGANIC CHEMISTRY SPONSORED BY ALDRICH CHEMICAL COMPANY, INC.

Clayton H. Heathcock — *University of California, Berkeley*

. . . for his important contributions to the rational design of organic syntheses of natural substances, ranging from polyaldol structures to very complex alkaloids. He has assembled these compounds with startling and elegant simplicity.

Alfred Bader
Chairman
Aldrich Chemical Company, Inc.

* * *

JAMES T. GRADY-JAMES H. STACK AWARD FOR INTERPRETING CHEMISTRY FOR THE PUBLIC

Jerry E. Bishop — *The Wall Street Journal*

. . . for his clear, easily understood interpretative stories on almost every aspect of science, including an astonishing variety of stories on chemistry. Because of the depth, clarity and timeliness of his coverage, his readers have become one of the best informed segments of the public on new developments in chemistry.

Helen M. Free
Chairman, Committee on Public Affairs
and Public Relations, ACS

E. V. MURPHREE AWARD
IN INDUSTRIAL AND ENGINEERING CHEMISTRY
SPONSORED BY EXXON RESEARCH AND ENGINEERING COMPANY
AND EXXON CHEMICAL COMPANY

L. E. Scriven — *University of Minnesota*

. . . in recognition of his outstanding contributions to the understanding and application of coating flows, flows in porous media and those driven by interfacial tension, and for the intelligent harnessing of the computer to these analyses.

Andrew Kaldor
Director
Resource Chemistry Laboratory
Corporate Research Laboratories
Exxon Research and Engineering Company

* * *

AMERICAN CHEMICAL SOCIETY AWARD
IN CHROMATOGRAPHY
SPONSORED BY SUPELCO, INC.

John H. Knox — *University of Edinburgh*

. . . for his life-long contributions to chromatographic theory and practice and in particular for his preeminent role in guiding the development of HPLC.

Mark V. Robillard
Manager, Research and Development
SUPELCO, Inc.

AMERICAN CHEMICAL SOCIETY AWARD
IN INORGANIC CHEMISTRY
SPONSORED BY MONSANTO COMPANY

Thomas J. Meyer — *University of North Carolina, Chapel Hill*

. . . for research, imaginatively conceived and expertly executed, which has greatly improved our understanding of all major manifestations of electron transfer in chemical changes, thereby enhancing our power to control and apply oxidation-reduction reactions.

Denis Forster
Distinguished Fellow and
Director of Chemical Sciences
Monsanto Company

* * *

THE PETER DEBYE AWARD
IN PHYSICAL CHEMISTRY
SPONSORED BY E. I. DU PONT DE NEMOURS & COMPANY

Harden M. McConnell — *Stanford University*

. . . for his outstanding achievements in elucidating the nature of magnetic resonance interactions in molecular systems, and for imaginative applications of these methods to structural and dynamic studies of chemical and biological systems.

Richard K. Quisenberry
Director of Research
Central Research and Development Department
E. I. du Pont de Nemours & Company

FREDERIC STANLEY KIPPING AWARD
IN ORGANOSILICON CHEMISTRY
SPONSORED BY DOW CORNING CORPORATION

John L. Speier — *Dow Corning Corporation*

. . . in recognition of his pioneering contributions to the synthesis of organosilicon compounds by novel catalytic processes. His work has fostered broad advances in the basic science and technology of silicone.

Donald R. Weyenberg
Senior Vice President, R&D
Dow Corning Corporation

* * *

AMERICAN CHEMICAL SOCIETY AWARD
IN POLYMER CHEMISTRY
SPONSORED BY MOBIL CHEMICAL COMPANY

Harold A. Scheraga — *Cornell University*

. . . for his development of chemical, physical and theoretical methods of studying the shape and interactions of biopolymers.

Wooyoung Lee
Manager, Edison Research Laboratory
Mobil Chemical Company

AMERICAN CHEMICAL SOCIETY AWARD
FOR DISTINGUISHED SERVICE
IN THE ADVANCEMENT OF INORGANIC CHEMISTRY
SPONSORED BY MALLINCKRODT, INC.

Richard H. Holm — *Harvard University*

. . . for studies of ion-sulfur clusters, combining inorganic and biological chemistry in a new and profound way.

C. Philip Shank
Director of Technology
Mallinckrodt, Inc.

* * *

THE JAMES FLACK NORRIS AWARD
IN PHYSICAL ORGANIC CHEMISTRY
SPONSORED BY THE NORTHEASTERN SECTION, ACS

Norman L. Allinger — *University of Georgia*

. . . for his pioneering studies of the structures of organic molecules and their energies in various conformations, especially applications of the computer in quantum organic chemistry and molecular mechanics.

James B. Hendrickson
Past Chairman, Northeastern Section, ACS

THE IRVING LANGMUIR AWARD
IN CHEMICAL PHYSICS
SPONSORED BY THE GENERAL ELECTRIC FOUNDATION

William H. Miller — *University of California, Berkeley*

. . . for his fundamental contributions to quantum theory and chemical dynamics, especially semiclassical quantum theory, quantum transition state theory and exact quantum mechanical reactive scattering theory.

Michael M. O'Mara
Manager, Chemical Research Center
General Electric Research and Development Center
General Electric Corporation

* * *

THE HENRY H. STORCH AWARD
IN FUEL CHEMISTRY
SPONSORED BY EXXON RESEARCH AND ENGINEERING COMPANY

Bradley C. Bockrath — *Pittsburgh Energy Technology Center, Department of Energy*

. . . in recognition of his many contributions toward a fundamental understanding of coal liquefaction chemistry and his outstanding professional service to the fuel science community.

Stephen C. Mraw
Section Head
Resource Chemistry Laboratory
Corporate Research Laboratories
Exxon Research and Engineering Company

JAMES BRYANT CONANT AWARD
IN HIGH SCHOOL CHEMISTRY TEACHING
SPONSORED BY ETHYL CORPORATION

John Liebermann, Jr.

Thomas Jefferson High School
for Science and Technology
Alexandria, Virginia

. . . in recognition of exceptional success as a teacher of high school chemistry, unique ability to stimulate young minds, and outstanding contributions to the advancement of science education.

John C. Wollensak
Director, Chemical Research and Development
Ethyl Corporation

* * *

AMERICAN CHEMICAL SOCIETY AWARD
FOR CREATIVE INVENTION
SPONSORED BY THE CORPORATION ASSOCIATES

C. F. Hammer

E. I. du Pont de Nemours & Company
(Retired)

. . . for using great ingenuity in inventing a wide variety of ethylene copolymers. Among his inventions are the first practical polymeric plasticizer for polyvinyl chloride (PVC); the first effective rubbery toughener for commercial phenolic molding compounds; a truly controllable method for making unique graft copolymers; polypropylene blends that are melt-spinable and acid dyeable; and other unique products.

Charles S. Sodano
Chairman
Committee on Corporation Associates, ACS

AMERICAN CHEMICAL SOCIETY AWARD
IN APPLIED POLYMER SCIENCE
SPONSORED BY PHILLIPS PETROLEUM COMPANY

Otto Vogl — *Polytechnic Institute*

. . . for his outstanding contributions to the synthesis and characterization of novel and unusual polymer structures and his pioneering investigations, especially of polymeric stabilizers and drugs, creating the field of functional polymers.

D. G. Brady
Manager, Polymers and Materials
Phillips Petroleum Company

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AMERICAN CHEMICAL SOCIETY AWARD
FOR CREATIVE WORK IN FLUORINE CHEMISTRY
SPONSORED BY PCR INCORPORATED

J. Colin Tatlow — *University of Birmingham*

. . . for outstanding contributions to organofluorine chemistry through his work in synthetic methodology, mechanistic elucidation and stereochemical control applied to a wide range of fundamental areas of this novel branch of chemistry.

Keith B. Baucom
Vice President, Technology
PCR Incorporated

Arthur C. Cope Award

Koji Nakanishi — *Columbia University*

. . . for his international leadership in the development of a number of very powerful methods for the elucidation of the structures of biologically important natural products, some on a microscale, and for many further contributions ranging from fundamental work on the Nuclear Overhauser Effect to the mechanism of vision.

This award will be presented during the 200th ACS National Meeting, Washington, D.C., August 26—31, 1990.

* * *

American Chemical Society Award for Creative Advances in Environmental Science and Technology sponsored by Air Products and Chemicals, Inc.

David M. Golden — *SRI International*

. . . for application of chemical kinetics to the understanding of atmospheric chemistry and combustion. His synergistic use of theory and experiment has helped to elucidate rates and thermochemistry of gas-phase elementary reactions, and reactions on particles, that are critical to the chemistry of the polar stratosphere.

James F. Roth
Corporate Chief Scientist
Air Products and Chemicals, Inc.

ALFRED BURGER AWARD IN MEDICINAL CHEMISTRY
SPONSORED BY SMITHKLINE BEECHAM

Arnold Brossi — *National Institutes of Health*

. . . master of medicinal chemistry, is recognized especially for his leadership in synthesis of bioactive natural products and synthetic drugs *in both enantiomeric forms.* His work helped reveal the selectivity of binding sites and guided us toward the enhancement of pharmacological activity.

John G. Gleason
Director, Department of Medicinal Chemistry
SmithKline Beecham

* * *

NOBEL LAUREATE SIGNATURE AWARD
FOR GRADUATE EDUCATION IN CHEMISTRY
SPONSORED BY J. T. BAKER INC.

Yongqin Chen — *University of Southern California*

. . . for distinguished experimental and theoretical work on the characterization of high internal levels of acetylene using the techniques of stimulated emission pumping and spectral cross correlations.

This award recognizes research performed as a graduate student at Massachusetts Institute of Technology under the direction of

Robert W. Field
and
James L. Kinsey

William J. Wojcik
Manager, Advertising and Expositions
J. T. Baker Inc.

JOEL HENRY HILDEBRAND AWARD IN THE
THEORETICAL AND EXPERIMENTAL CHEMISTRY OF LIQUIDS
SPONSORED BY E. I. DU PONT DE NEMOURS & COMPANY

John D. Weeks — *AT&T Bell Laboratories*

. . . for perturbation theories of liquids, for the fundamental insights and theoretical analysis of interfacial fluctuations, and for explaining their implications regarding structure, dynamics, and phase transitions of inhomogeneous fluids.

Richard K. Quisenberry
Director of Research
Central Research and Development Department
E. I. du Pont de Nemours & Company

* * *

EARLE B. BARNES AWARD
FOR LEADERSHIP IN CHEMICAL RESEARCH MANAGEMENT
SPONSORED BY THE DOW CHEMICAL COMPANY

John R. Thomas — *Chevron Corporation (Retired)*

. . . in recognition of extraordinary contributions as President of Chevron Research to the accomplishment of both current and strategic research objectives, his contributions to and effective support of important fundamental research and innovative development programs, and his personal skills in maintaining high morale and support during the stressful periods that accompany successful innovation and commercialization.

Fred P. Corson
Director of Research and Development
The Dow Chemical Company

American Chemical Society Award in Separations Science and Technology sponsored by Rohm and Haas Company

Henry Freiser — *University of Arizona*

. . . for his many original, significant contributions to the fundamental aspects of separation science and for the development of new and more selective separation processes. He has demonstrated the importance of basic chemical knowledge in fields such as electrochemistry, surface science and liquid-liquid extraction equilibria and kinetics.

Harry J. White
Director, University Relations
Rohm and Haas Company

* * *

Frank H. Field and Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry sponsored by Extrel Corporation

Evan C. and Marjorie G. Horning — *Baylor College of Medicine*

. . . for their outstanding contributions to the field of mass spectrometry; for advancing its applications to biochemistry and medicine through innovative research in chemical derivatization methods, atmospheric pressure ionization and combined chromatography—mass spectrometry.

James D. Buchner
Vice President, Applications and Development
Extrel Corporation

AMERICAN CHEMICAL SOCIETY AWARD
IN ORGANOMETALLIC CHEMISTRY
SPONSORED BY DOW CHEMICAL COMPANY FOUNDATION

John E. Bercaw — *California Institute of Technology*

. . . in recognition of his profound and lasting contributions to our knowledge and understanding of synthetic and mechanistic organometallic chemistry, especially of the early transition elements.

Duane S. Lehman
Director, Technical Recruiting and
Resource Development, R&D
The Dow Chemical Company

* * *

AMERICAN CHEMICAL SOCIETY AWARD
FOR COMPUTERS IN CHEMISTRY
SPONSORED BY DIGITAL EQUIPMENT CORPORATION

Peter C. Jurs — *Pennsylvania State University*

. . . for his creative application of computer-enhanced methods to solve chemical problems including analytical data analysis using pattern recognition methods, for studies of molecular structure-physicochemical property relationships, and molecular structure-biological activity relationships, and in recognition of his success in stimulating a collaborative and innovative spirit among his coworkers.

Randolph H. Levine
Manager, Scientific Applications Marketing
Digital Equipment Corporation

American Chemical Society Award
for Research at an Undergraduate Institution
sponsored by Research Corporation

Thomas P. Onak — *California State University, Los Angeles*

. . . for his outstanding research in carborane chemistry, especially notable for its elegance of approach and its combination of experimental ingenuity and theoretical insight, and for his vigorous involvement of undergraduate students in chemical research.

Brian Andreen
Grants Program Coordinator
Research Corporation

* * *

Alfred Bader Award
in Bioinorganic or Bioorganic Chemistry

Harry B. Gray — *California Institute of Technology*

. . . for fundamental contributions to biochemistry through research on the electronic structures of iron and copper centers in proteins and for establishing the study of long range electron transfer between protein bound metal centers.

Alfred Bader
Donor

AMERICAN CHEMICAL SOCIETY AWARD
IN THE CHEMISTRY OF MATERIALS
SPONSORED BY
E. I. DU PONT DE NEMOURS & COMPANY

Robert A. Laudise — *AT&T Bell Laboratories*

. . . for seminal studies of materials chemistry and crystal growth leading to commercialization of a variety of electronic materials, especially quartz grown hydrothermally.

Richard K. Quisenberry
Director of Research
Central Research and Development Department
E. I. du Pont de Nemours & Company

* * *

RALPH F. HIRSCHMANN AWARD
IN PEPTIDE CHEMISTRY
SPONSORED BY THE MERCK SHARP & DOHME
RESEARCH LABORATORIES

Bruce Merrifield — *Rockefeller University*

. . . for origination and development of solid-phase peptide synthesis, which has also dramatically affected peptide sequence determination, and has had a profound impact on other fields of organic chemistry.

Joel R. Huff
Senior Director, Medicinal Chemistry
Merck Sharp & Dohme Research Laboratories

AWARDS

AMERICAN
CHEMICAL
SOCIETY

ADMINISTERED
BY ACS

AWARDS

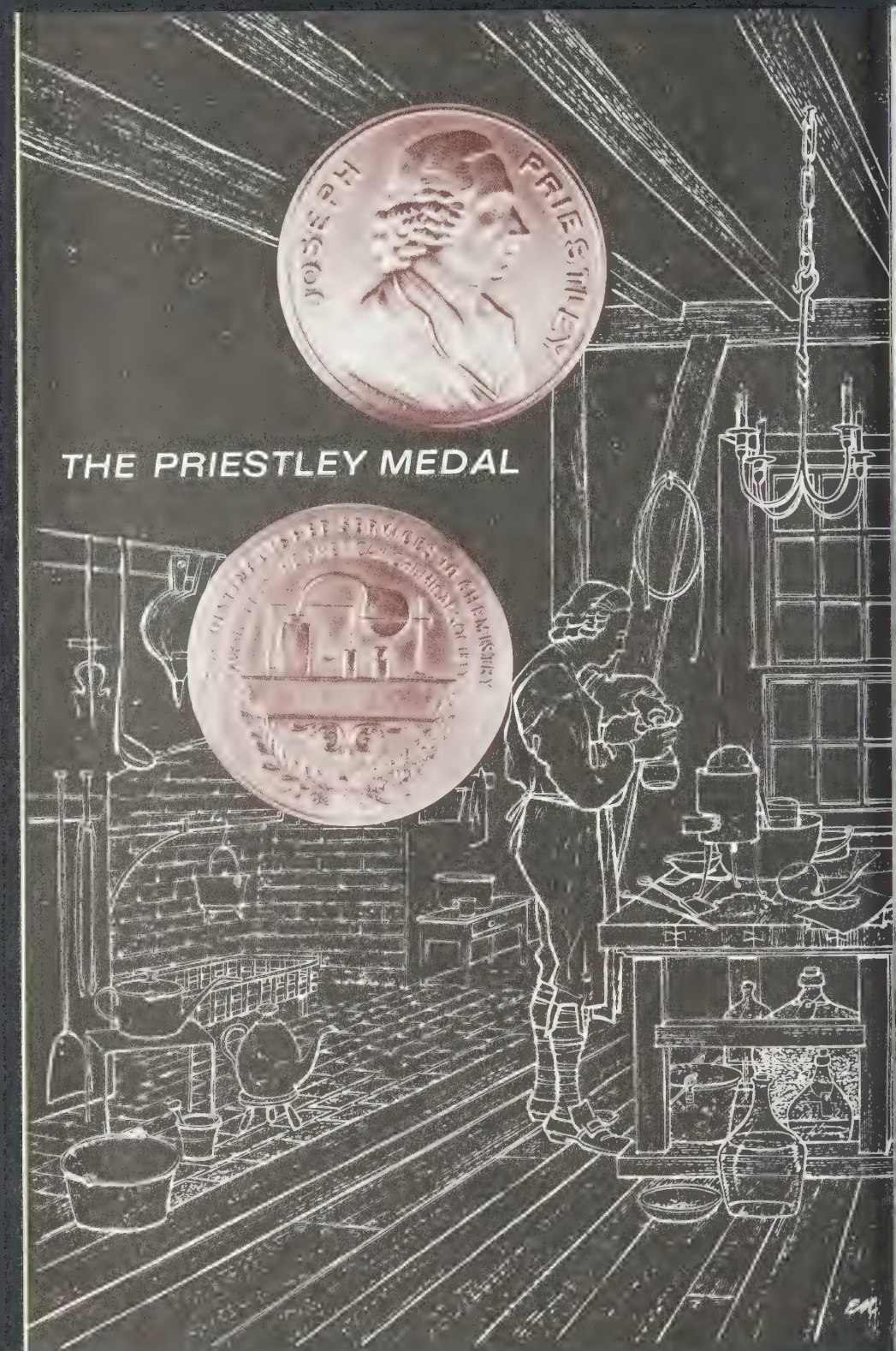
ADMINISTERED BY
AMERICAN CHEMICAL SOCIETY

American Chemical Society
1155 Sixteenth Street, NW
Washington, DC 20036

BULLETIN 7

1991 EDITION

Describing awards to be presented in 1992


JOSEPH PRIESTLEY
THE PRIESTLEY MEDAL

Awards Administered by the American Chemical Society

The awards administered by the American Chemical Society have won renown throughout the scientific world. In large measure, this merited status results from the careful canvass made for nominees and the high degree of discernment displayed in selecting recipients.

The following description of these awards and of the procedures for nomination of candidates and selection of recipients is intended to be of general interest and helpful in particular to those who have candidates to propose.

AWARDS

ADMINISTERED BY AMERICAN CHEMICAL SOCIETY

Introduction

The majority of awards included in this bulletin are designed to recognize individual accomplishment in diverse fields of the chemical sciences. Information on two awards for outstanding performance by local sections and divisions of the American Chemical Society and a special award created by the Board of Directors is also included. Different nomination and selection procedures are employed for these awards. In addition to the national awards listed in this publication, a number of ACS divisions and local sections also administer awards. Details concerning the application procedures and deadlines for the local section/divisional awards may be obtained from the chairmen or secretaries of the sponsoring divisions or local sections.

General Regulations

These regulations do not apply in full to all awards administered by the American Chemical Society. There are exceptions. Please refer to the description of each award for details.

. . . . . .

The presentation of ACS awards is an annual feature of the ACS spring national meeting. Customarily, the names of the recipients are announced at the preceding ACS fall meeting.

In the selection of recipients of awards which recognize scientific achievement, only documents supplied to the committee as part of the nomination plus publications and patents listed in the required bibliography will be considered.

Posthumous awards will be made only when knowledge of the awardee's death is received after announcement of the award committee's decision. Nominations of persons known to be deceased will not be accepted.

ACS awards are designed to recognize individual accomplishment. The sharing of an award will be voted only in exceptional cases and then only on approval of the sponsor and of the Committee on Grants and Awards.

If U.S. citizenship is specified as a requirement for the award, status at the deadline date for receipt of nomination will govern. Nominations of naturalized persons must be accompanied by indication of acquired U.S. citizenship.

Should the same individual be chosen for two or more awards in any one year, the President and President-Elect, in consultation with such members of the Society as they may choose, are empowered to decide which award or awards shall be given to that individual and, should one or more of the awards be withheld, to designate as recipient of any withheld award the second choice of the committee for that award if such a step appears advisable.

In general, a recipient of a widely recognized scientific award shall not be eligible for an ACS award unless the accomplishment cited as basis for the nomination represents new or different work. It is recommended that the

recipient of a widely recognized scientific award not be nominated for an ACS award unless (1) the nomination is for *clearly* different work or (2) at least five years have elasped since the previous award.

Each recipient is required not only to appear in person to receive the award, but also to deliver an address upon the subject of his or her scientific work, preferably that for which the recognition has been voted, if designated, before a session of an appropriate division. These requirements will be waived only under extraordinary circumstances.

Nominations for Awards

Who may nominate: Any individual, except a member of the Award Committee, may submit one nomination or seconding letter for each award in any given year. In nomination by petition, the person whose signature is first will be considered as the nominator and the endorsements which follow will be eliminated.

The Nominating Document

Required: (1) A letter of not more than 1,000 words containing an evaluation of the nominee's accomplishments and a specific identification of the work to be recognized. An analysis of patents is especially valuable. If the nominee is not the sole author of works cited, the contribution of the nominee should be specified. If the proposed nominee is eligible for any of the other ACS awards, the reason(s) for nomination for the particular award should be clearly stated.

(2) A biographical sketch, including date of birth.

(3) A list of publications and patents authored by the nominee.

Optional: No more than *two seconding letters,* containing factual information not given in the letter of nomination, may be included. *Reprints or preprints* may be included as documentary evidence, provided that the subject treated is restricted to the work on which the nomination is based and such reprints-preprints do not exceed a total of five (5). Books or tapes may not be included, but brochures, abstracts, patents, or reviews may be used in lieu of reprints. All nominating documents should be letter-size and *un*bound.

Procedure for Nominating

Mail *six (6) copies* of all items to be included in the nomination to: Awards Office, American Chemical Society, 1155-16th Street, N.W., Washington, D.C. 20036.

The deadline date (date of postmark) of all nominating material for 1992 ACS awards is *February 1, 1991* (except for the Arthur C. Cope Scholar Award and the James Bryant Conant Award).

Renomination of candidates is encouraged. Documents are retained on file for three award-years but are reconsidered by award committees only upon formal renomination by the original nominator. (Only nominations for the Priestley Medal and James Bryant Conant Award are automatically re-

considered for three years.) Three successive letters of renomination will be accepted, after which nominators will be required to submit a new document conforming to the 1,000-word limit. Letters of renomination must be postmarked no later than *February 1, 1991.*

Canvassing Committees

To assure that no outstanding candidate is overlooked, a Canvassing Committee for award nominations has been established for each award. This committee is expected to search the literature and suggest to potential nominators candidates who may have been overlooked. By a mail or personal canvass of individuals known to be in a favorable position to evaluate outstanding work in the field of the award, the committee offers to potential nominators suggestions of possible candidates, provides the deadline dates for submission of names and supporting data, and reminds nominators of their responsibility. This group thus seeks to rectify the common human failing of relying on someone else to do the job. The Women Chemists' Committee acts as the Canvassing Committee for the Garvan Medal.

Prior to the annual solicitation of nominations, one ACS member is appointed to each of the special canvassing committees for a term of three award-years by the President-Elect of the Society or, in his or her absence, by the President; the senior member serves as chairman. Vacancies are filled by appointment for the unexpired term. Service on a canvassing committee in no way renders the member ineligible to nominate or be a candidate for the award.

Award Committees

A committee of experts in the field of each award selects the recipient. For all except the Roger Adams Award, the Charles Lathrop Parsons Award and the Priestley Medal the committee consists of five appointed members, each of whom serves for three award-years. The award committee for the Roger Adams Award consists of seven members. Terms are on a rotating basis.* These appointments are made by the President-Elect or, in his or her absence, the President. The names of personnel of award committees are not made public; members of a particular award committee are not informed of the identity of the other members of their committee. Selection for service on an award committee should be considered confidential. Members are ineligible for a second consecutive appointment to the same award committee. Members of each award committee may *not* nominate, second, or be a candidate for that award, but may nominate, second, or be a candidate for *any other* ACS award for which they qualify. Appointments are made with due consideration to geographical distribution of committee members and, where appropriate, to subspecialty representation on the committee. The committee for the Garvan Medal must have not less than two or more than

**If it is decided that an award will not be made, thereby relieving the committee of its responsibilities, all appointments are extended automatically for another year.*

three women as members. Nonmembers may serve on the Award Committees for the James Bryant Conant Award in High School Chemistry Teaching and for the James T. Grady—James H. Stack Award, provided they do not in either case constitute a majority. Except for the Charles Lathrop Parsons Award and the Priestley Medal, the President-Elect of the Society or some member designated by the President-Elect serves as Chairman of each Award Committee.

Promptly after the deadline for receipt of nominations, the office of the Awards Program of the Society, at the direction of the Chairman of the Award Committees, transmits the nominations with supporting data to the members of the appropriate committees, requesting prompt review and compliance with the following procedure:

The Chairman first shall ask the members of the Award Committee whether any candidate is worthy of the prize. If a majority of the members answer in the negative, no award will be made. If more than three members answer in the affirmative the committee shall at once proceed to ballot, each appointive member of the committee indicating to the Chairman his or her preferences. The candidates will be rated in order of preference by each committee member. The lower scores will constitute selection for further balloting. The number of persons to be eliminated on each subsequent ballot will be determined by the Chairman, and election shall occur only when a candidate receives more than 50% first choices.

On the final ballot, the Chairman shall cast the deciding ballot in the event of a tie. If a juror does not return his vote within a reasonable time, the Chairman may assume that the juror's order of preference of nominees will be the same as indicated in previous ballots, if such preference has been expressed. For all awards, all details of balloting are confidential.

The final decision of each committee should be in the office of the Awards Program of the Society within six weeks, if possible, and must be received not later than two months after transmittal of documents. This schedule is necessary if suitable publicity is to be prepared for announcement of recipients at the next Society meeting and if divisions are to be given an opportunity to plan special programs related to an award address. More than one ballot may be necessary.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Description of Awards

ACS Award for Computers in Chemistry sponsored by Digital Equipment Corporation

Purpose. To recognize and encourage the use of computers in the advancement of chemical science.

Nature. The award consists of $3,000 and a suitably inscribed certificate. The traveling expenses of the recipient incidental to the award presentation will be reimbursed up to a maximum of $1,000.

Establishment and Support. The award was established in 1984 by Digital Equipment Corporation as part of its continuing effort to recognize the contributions of scientists and engineers in applying computers to the solution of problems in chemistry.

Rules of Eligibility. The award shall be granted to an individual without regard to age or nationality for outstanding achievement in the use of computers in research, development or education in chemical science.

Recipients

1986 Raymond E. Dessy
1987 W. Todd Wipke
1988 W. A. Goddard III
1989 Christie G. Enke
1990 Peter C. Jurs
1991 John A. Pople

ACS Award for Creative Advances in Environmental Science and Technology sponsored by Air Products and Chemicals, Inc.

Purpose. To encourage creativity in research and technology or methods of analysis to provide a scientific basis for informed environmental control decision making processes, or to provide *practical* technologies which will reduce health risk factors.

Nature. The award consists of $3,000, a certificate of recognition, and an allowance of up to $1,000 for travel expenses incidental to the conferral of the award.

Establishment and Support. The award was established in 1978 by Air Products and Chemicals, Inc.

Rules of Eligibility. The award shall be granted without regard to age, or nationality.

Recipients

1980 James J. Morgan
1981 Philip W. West
1982 Jack G. Calvert
1983 F. Sherwood Rowland
1984 Julian Heicklen
1985 Arthur Fontijn
1986 Eugene E. Kenaga
1987 Joseph C. Arcos
1988 A. Welford Castleman, Jr.
1989 James G. Anderson
1990 David M. Golden
1991 Ronald A. Hites

ACS Award for Creative Invention sponsored by The Corporation Associates

Purpose. To recognize individual inventors for successful applications of research in chemistry and/or chemical engineering which contribute to the material prosperity and happiness of people.

Nature. The award consists of $4,000 and a fine silver medal. In cases of multiple inventors on a single patent, the $4,000 will be split equally among the inventors. A fine silver engraved medal will be awarded to each inventor.

Establishment and Support. The award was established in 1966 by the Board of Directors of the Society through the efforts of the ACS Joint Board-Council Committee on Patent Matters and Related Legislation. The financial sponsorship of this award was assumed by the ACS Committee on Corporation Associates in 1975.

Rules of Eligibility. A nominee must be a resident of the United States or Canada. A patent must have been granted for the work to be recognized and it shall have been developed during the seventeen years ending January 1, 1992. A copy of the patent must be submitted with the nominating documents.

Recipients

1968 William G. Pfann
1969 J. Paul Hogan
1970 Gordon K. Teal
1971 S. Donald Stookey
1972 H. Tracy Hall
1973 Carl Djerassi
1974 Charles C. Price
1975 James D. Idol, Jr
1976 Manuel M. Baizer
1977 Herman A. Bruson
1978 LeGrand G. Van Uitert
1979 Leo H. Sternbach
1980 Stephanie L. Kwolek
1981 Roy L. Pruett
1982 William S. Knowles
1983 O.A. Battista
1984 Edwin P. Plueddemann
1985 Ralph Milkovich
1986 Alfred Marzocchi
1987 Robert M. Morin
1988 Samuel Smith
1989 George Levitt
1990 C. F. Hammer
1991 Frederick J. Karol

ACS Award for Creative Work in Fluorine Chemistry sponsored by PCR Inc.

Purpose. To recognize outstanding contributions to the advancement of the chemistry of fluorine.

Nature. The award consists of $3,000, a certificate and an expense allowance of up to $1,000 for travel to the meeting at which the award will be presented. The award will be presented in odd-numbered years at the Biennial Winter Fluorine Conference. Presentation of the award in even-numbered years will be during an ACS National Meeting at which the Division of Fluorine Chemistry meets.

Establishment and Support. The award was established in 1971 by PCR Inc., and administered by the Division of Fluorine Chemistry until the 1990 presentation.

Rules of Eligibility. A nominee must have made an outstanding contribution or contributions to the field of fluorine chemistry.

Recipients

1972 George H. Cady
1973 Joseph H. Simons
1974 William T. Miller
1975 Joseph D. Park
1976 Paul Tarrant
1977 Charles B. Colburn
1978 Jean'ne M. Shreeve
1979 Wayne E. White
1980 John L. Margrave
1981 Ronald J. Gillespie
1982 William J. Middleton
1983 Darryl D. DesMarteau
1984 Donald J. Burton
1985 David C. England
1986 Karl O. Christe
1987 Carl G. Krespan
1988 Harry J. Emeléus
1989 Yoshiro Kobayashi
1990 J. Colin Tatlow
1991 Richard D. Chambers

ACS Award for Creative Work in Synthetic Organic Chemistry sponsored by Aldrich Chemical Company, Inc.

Purpose. To recognize and encourage creative work in synthetic organic chemistry.

Nature. The award consists of $3,000, a certificate, and an allowance of not more than $1,000 for travel expenses incidental to the conferral of the award. The recipient's award address will be reprinted in *Aldrichimica Acta.*

Establishment and Support. Sponsorship of this award was assumed by Aldrich Chemical Company, Inc. in 1976. The award was established in 1955 by Synthetic Organic Chemical Manufacturers Association. No award was given in 1977.

Rules of Eligibility. A nominee must have accomplished outstanding creative work in synthetic organic chemistry that has been published during the five years ending January 1, 1992.

Recipients

1957 Robert B. Woodward
1958 William S. Johnson
1959 John C. Sheehan
1960 Herbert C. Brown
1961 Melvin S. Newman
1962 Charles R. Hauser
1963 Nelson J. Leonard
1964 Lewis H. Sarett
1965 Donald J. Cram
1966 William von E. Doering
1967 Gilbert J. Stork
1968 Theodore L. Cairns
1969 H. Gobind Khorana
1970 Eugene E. van Tamelen
1971 Elias J. Corey
1972 Bruce Merrifield
1973 George Buchi
1974 Edward C. Taylor
1975 Herbert O. House
1976 Franz Sondheimer
1978 Satoru Masamune
1979 George A. Olah
1980 Yoshito Kishi
1981 Barry M. Trost
1982 David A. Evans
1983 K. Barry Sharpless
1984 Leo A. Paquette
1985 Albert I. Meyers
1986 Samuel Danishefsky
1987 Harry Wasserman
1988 Robert E. Ireland
1989 Derek Barton
1990 Clayton H. Heathcock
1991 Paul A. Grieco

ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry sponsored by Mallinckrodt, Inc.

Purpose. To recognize distinguished services to the advancement of inorganic chemistry.

Nature. The award consists of $5,000, an appropriate certificate, and an allowance of not more than $1,000 for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. Sponsorship of this award was assumed by Mallinckrodt, Inc. in 1965. The award, established in 1963, was supported by funds provided by anonymous donors for the first two years.

Rules of Eligibility. A nominee must have demonstrated extensive contributions to the advancement of inorganic chemistry. Activities recognized by the award may include such fields as teaching, writing, research, and administration. A nominee must be a member of the American Chemical Society.

Recipients

1965 Robert W. Parry
1966 George H. Cady
1967 Henry Taube
1968 William N. Lipscomb, Jr.
1969 Anton B. Burg
1970 Ralph G. Pearson
1971 Joseph Chatt
1972 John C. Bailar, Jr.
1973 Ronald J. Gillespie
1974 F. Albert Cotton
1975 Fred Basolo
1976 Daryle H. Busch
1977 James L. Hoard
1978 Harry J. Emeléus
1979 Earl L. Muetterties
1980 Arthur E. Martell
1981 Dietmar Seyferth
1982 Arthur W. Adamson

1983 Norman Sutin
1984 Harry B. Gray
1985 Jack Halpern
1986 Jack Lewis
1987 Duward F. Shriver
1988 M. Frederick Hawthorne
1989 Neil Bartlett
1990 Richard H. Holm
1991 James P. Collman

ACS Award for Nuclear Chemistry

Purpose. To recognize and encourage research in nuclear and radiochemistry or their applications.

Nature. The award consists of $3,000 and a certificate. Traveling expenses to the meeting at which the award will be presented will be paid.

Establishment and Support. The award is currently supported by funds from a gift to the Society by an anonymous donor, who supported the award in odd-numbered years from 1980–85; the award was sponsored by EG&G ORTEC during the intervening even-numbered years. Sponsorship was assumed by Amersham Corporation for 1986–89. A predecessor award, the ACS Award for Nuclear Applications in Chemistry, was established in 1953 by Nuclear-Chicago Corporation, a subsidiary of G. D. Searle & Co.

Rules of Eligibility. A nominee must have made outstanding contributions to nuclear or radiochemistry or to their applications. There are no limits on age or on nationality.

Recipients

1955 Henry Taube
1956 Willard F. Libby
1957 Melvin Calvin
1958 Jacob Bigeleisen
1959 John E. Willard
1960 Charles D. Coryell
1961 Joseph J. Katz
1962 Truman P. Kohman
1963 Martin D. Kamen
1964 Isadore Perlman
1965 Stanley G. Thompson
1966 Arthur C. Wahl
1967 Gerhart Friedlander
1968 Richard L. Wolfgang
1969 George E. Boyd
1970 Paul R. Fields
1971 Alfred P. Wolf
1972 Anthony Turkevich
1973 Albert Ghiorso
1974 Lawrence E. Glendenin
1975 John R. Huizenga
1976 John O. Rasmussen
1977 Glen E. Gordon
1978 Paul K. Kuroda
1979 Raymond Davis, Jr.
1980 Arthur M. Poskanzer
1981 Robert Vandenbosch
1982 Leo Yaffe
1983 Darleane C. Hoffman
1984 Joseph Cerny
1985 Gregory R. Choppin
1986 Victor E. Viola
1987 Ellis P. Steinberg
1988 Guenter Herrmann
1989 Ronald D. Macfarlane
1990 Michael J. Welch
1991 John M. Alexander

ACS Award for Research at an Undergraduate Institution sponsored by Research Corporation

Purpose. To recognize the importance of research with undergraduates. The award will honor a chemistry faculty member whose research in an undergraduate setting has achieved wide recognition and contributed significantly to chemistry and to the professional development of undergraduate students.

Nature. The award consists of $5,000 and an inscribed certificate. Travel expenses incidental to the conferment of the award will be reimbursed. Research Corporation will also provide a grant of $4,000 directly to the awardee's institution.

Establishment and Support. Research Corporation, a private foundation for the advancement of science and technology, established the award in 1984.

Rules of Eligibility. Nominees will be drawn from the tenured faculty of predominantly undergraduate institutions. The nominee's department may offer work leading to the master's degree but shall not have a doctoral program. Recognition will be given for successful research as evidenced by such factors as publications with undergraduate coauthors, external grant support, and the subsequent professional development of students who have participated in the research program. Generally, the award will be given for significant work over a long period of time rather than for a specific, limited project.

Recipients

1986 Corwin H. Hansch
1987 Harold W. Heine
1988 Michael P. Doyle
1989 Lon B. Knight, Jr.
1990 Thomas P. Onak
1991 Philip C. Myhre

ACS Award in Analytical Chemistry sponsored by Fisher Scientific Company

Purpose. To recognize and encourage outstanding contributions to the science of analytical chemistry, pure or applied, carried out in the United States or Canada.

Nature. The award consists of $5,000 and an etching. The traveling expenses of the recipient incidental to the conferring of the award are paid.

Establishment and Support. The award was established in 1947 by the Fisher Scientific Company.

Rules of Eligibility. A nominee must be a resident of the United States or Canada and must have made an outstanding contribution to analytical chemistry. Special consideration will be given to the independence of thought and the orginality shown, or to the importance of the work when applied to public welfare, economics, or the needs and desires of humanity.

Recipients

1948 N. Howell Furman
1949 G.E.F. Lundell
1950 Isaac M. Kolthoff
1951 H.H. Willard
1952 Melvin G. Mellon
1953 Donald D. Van Slyke
1954 G. Frederick Smith
1955 Ernest H. Swift
1956 Harvey Diehl
1957 John H. Yoe
1958 James J. Lingane
1959 James I. Hoffman
1960 Philip J. Elving
1961 Herbert A. Laitinen
1962 H.A. Liebhafsky
1963 David N. Hume
1964 John Mitchell, Jr.
1965 Charles N. Reilley
1966 Lyman C. Craig
1967 Lawrence T. Hallet
1968 Lockhart B. Rogers
1969 Roger G. Bates
1970 Charles V. Banks
1971 George H. Morrison
1972 W. Wayne Meinke
1973 James D. Winefordner
1974 Philip W. West
1975 Sidney Siggia
1976 Howard V. Malmstadt
1977 George G. Guilbault
1978 Henry Freiser
1979 Velmer A. Fassel
1980 J. Calvin Giddings
1981 Fred W. McLafferty
1982 Ralph N. Adams
1983 Thomas L. Isenhour
1984 Allen J. Bard
1985 James S. Fritz
1986 David M. Hercules
1987 Gary M. Hieftje
1988 Fred E. Lytle
1989 Fred C. Anson
1990 Barry L. Karger
1991 Royce W. Murray

ACS Award in Applied Polymer Science sponsored by Phillips Petroleum Company

Purpose. To recognize and encourage outstanding achievements in the science or technology of plastics, coatings, polymer composites, adhesives, and related fields.

Nature. The award consists of $3,000 and a medallion. An allowance of up to $1,000 is provided to assist with traveling expenses to the meeting at which the award is presented.

Establishment and Support. Sponsorship of this award was assumed by Phillips Petroleum Company in 1981. A prior ACS award in the chemistry of plastics and coatings sponsored by Borden Foundation, Inc. was established in 1966. No award was given in 1982.

Rules of Eligibility. This award is intended to recognize and encourage the achievements of scientists who are active in the fields of polymer and polymer materials research. The recipient will be selected primarily on the basis of scientific contributions made to the technology of plastics, coatings, polymer composites, adhesives, and related fields during the ten-year period preceding date of selection. Preference will be given to avoid repeating specific areas of technology whenever recognized by the grant of this award in the two preceding years.

Recipients

1968 Harry Burrell
1969 Sylvan O. Greenlee
1970 Raymond F. Boyer
1971 Raymond R. Myers
1972 Richard S. Stein
1973 Carl S. Marvel
1974 Vivian T. Stannett
1975 Maurice L. Higgins
1976 Herman F. Mark
1977 William A. Zisman
1978 John K. Gillham
1979 Roger S. Porter
1980 John W. Vanderhoff
1981 Eric Baer
1983 Frank A. Bovey
1984 Donald R. Paul
1985 James Economy
1986 William J. Bailey
1987 O.A. Battista
1988 David S. Breslow
1989 Leo Mandelkern
1990 Otto Vogl
1991 E. J. Vandenberg

ACS Award in Chromatography sponsored by SUPELCO, Inc.

Purpose. To recognize outstanding contributions to the fields of chromatography.

Nature. The award consists of $5,000 and a certificate. Traveling expenses to the meeting at which the award is presented will be paid.

Establishment and Support. Sponsorship of this award was assumed by SUPELCO, Inc. in 1970. A prior ACS award in chromatography and electophoresis sponsored by Lab-Line Instruments, Inc. was established in 1959. No award was given in 1971.

Rules of Eligibility. A nominee must have made an outstanding contribution to the fields of chromatography, with particular consideration given to developments of new methods.

Recipients

1961 Harold H. Strain
1962 L. Zechmeister
1963 Waldo E. Cohn
1964 Stanford Moore and William H. Stein
1965 Stephen Dal Nogare
1966 Kurt A. Kraus
1967 J. Calvin Giddings
1968 Lewis G. Longsworth
1969 Morton Beroza
1970 Julian F. Johnson
1972 J.J. Kirkland
1973 Albert Zlatkis
1974 Lockhart B. Rogers
1975 Egon Stahl
1976 James S. Fritz
1977 Raymond P. W. Scott
1978 A. J. P. Martin
1979 Evan C. Horning
1980 James E. Lovelock
1981 Marcel J. E. Golay
1982 Barry L. Karger
1983 Csaba G. Horváth
1984 Lloyd R. Snyder
1985 Leslie S. Ettre
1986 Milos V. Novotny
1987 Charles H. Lochmûller
1988 Milton L. Lee
1989 Fred E. Regnier
1990 John H. Knox
1991 Hamish Small

ACS Award in Colloid or Surface Chemistry sponsored by The Kendall Company

Purpose. To recognize and encourage outstanding scientific contributions to colloid or surface chemistry in the United States or Canada.

Nature. The award consists of $3,000 and a certificate. An allowance of not more than $1,000 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. The award was established in 1952 by The Kendall Company.

Rules of Eligibility. The nominee must be a resident of the United States or Canada and must have made outstanding scientific contributions to colloid or surface chemistry. In even-numbered years the award will be presented for advances in colloid chemistry. In odd-numbered years recognition will be given to contributions in surface chemistry. Recognition will also be given to originality and independence of thought, and to the technological impact of the nominee's contribution.

Recipients

1954 Harry N. Holmes
1955 John W. Williams
1956 Victor K. La Mer
1957 Peter J. W. Debye
1958 Paul H. Emmett
1959 Floyd E. Bartell
1960 John D. Ferry
1961 Stephen Brunauer
1962 George Scatchard
1963 William A. Zisman
1964 Karol J. Mysels
1965 George D. Halsey, Jr.
1966 Robert S. Hansen
1967 Stanley G. Mason
1968 Albert C. Zettlemoyer
1969 Terrell L. Hill
1970 Jerome Vinograd
1971 Milton Kerker
1972 Egon Matijevic
1973 Robert L. Burwell, Jr.
1974 W. Keith Hall
1975 Robert Gomer
1976 Robert J. Good
1977 Michel Boudart
1978 Harold A. Scheraga
1979 Arthur W. Adamson
1980 Howard Reiss
1981 Gabor A. Somorjai
1982 Gert Ehrlich
1983 Janos H. Fendler
1984 Brian E. Conway
1985 Stig E. Friberg
1986 Eli Ruckenstein
1987 John T. Yates, Jr.
1988 Howard Brenner
1989 Arthur T. Hubbard
1990 J. Michael White
1991 W. Henry Weinberg

ACS Award in Industrial Chemistry sponsored by Akzo Chemicals, Inc.

Purpose. To recognize outstanding contributions to industrial chemistry resulting in the commercialization of an economically significant new product or process. Any field of chemical, chemical engineering, or biochemical research is appropriate if it is of general interest and reflects the concerns of modern society.

Nature. The award consists of $3,000 and a certificate. Traveling expenses of the recipient will be paid to the meeting at which the award is presented.

Establishment and Support. The award was established in 1989 by Akzo Chemicals, Inc.

Rules of Eligibility. Any chemical researcher, whether industrial, government or academic, is eligible, provided the work was done in North America and yielded significant commercial results for a period of more than one year.

Recipient

1991 James F. Roth

ACS Award in Inorganic Chemistry sponsored by Monsanto Company

Purpose. To recognize and encourage fundamental research in the field of inorganic chemistry.

Nature. The award consists of $5,000 and a certificate. An allowance of not more than $1,000 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. Sponsorship of this award was assumed by Monsanto Company in 1976. The award was established in 1960 by Texas Instruments Incorporated. No award was given in 1977.

Rules of Eligibility. A nominee must have accomplished outstanding research in the preparation, properties, reactions, or structure of inorganic substances. Special consideration shall be given to the independence of thought and originality shown. The award shall be granted without regard to age or nationality.

Recipients

1962 F. Albert Cotton
1963 Daryle H. Busch
1964 Fred Basolo
1965 Earl L. Muetterties
1966 Geoffrey Wilkinson
1967 John L. Margrave
1968 Jack Halpern
1969 Russell S. Drago
1970 Neil Bartlett
1971 Jack Lewis
1972 Theodore L. Brown
1973 M. F. Hawthorne
1974 Lawrence F. Dahl
1975 James P. Collman
1976 Richard H. Holm
1978 Harry B. Gray
1979 James A. Ibers
1980 Alan M. Sargeson
1981 Henry Taube
1982 Roald Hoffmann
1983 George W. Parshall
1984 M. L. H. Green
1985 F. G. A. Stone
1986 John D. Corbett
1987 Stephen J. Lippard
1988 Mark S. Wrighton
1989 Malcolm H. Chisholm
1990 Thomas J. Meyer
1991 R. Bruce King

ACS Award in Organometallic Chemistry sponsored by The Dow Chemical Company Foundation

Purpose. To recognize a recent advancement that is having major impact on research in organometallic chemistry.

Nature. The award consists of $5,000 and a certificate. An allowance of $1,000 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. The award was established by The Dow Chemical Company Foundation in 1983.

Rules of Eligibility. A nominee must have shown outstanding research in the preparation, reactions, properties, or structure of organometallic substances. Special consideration will be given to demonstrated creativity and independence of thought. Preference will be given to U.S. citizens.

Recipients

1985 Richard R. Schrock
1986 Robert G. Bergman
1987 K. Peter C. Vollhardt
1988 Robert H. Grubbs
1989 Tobin J. Marks
1990 John E. Bercaw
1991 Charles P. Casey

ACS Award in Petroleum Chemistry sponsored by the Amoco Foundation

Purpose. To recognize, encourage, and stimulate outstanding research achievements in the field of petroleum chemistry in the United States or Canada.

Nature. The award consists of $5,000 and a certificate. An allowance of $1,500 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. Sponsorship of this award was assumed by the Amoco Foundation effective with the 1986 presentation. The award was established in 1948 and sponsored by Precision Scientific Company until 1973. From 1976-1985 the award was sponsored by The Lubrizol Corporation. No awards were presented in 1974 and 1975.

Rules of Eligibility. A nominee must be a resident of the United States or Canada and have accomplished outstanding research in the chemistry of petroleum or in fundamental research that contributes directly and materially to the knowledge of petroleum and its products. Special consideration shall be given to the independence of thought and the originality shown.

Recipients

1949 Bruce H. Sage
1950 Kenneth S. Pitzer
1951 Louis Schmerling
1952 Vladimir Haensel
1953 Robert W. Schiessler
1954 Arthur P. Lien
1955 Frank Ciapetta
1956 Milburn J. O'Neal, Jr.
1957 C. Gardner Swain
1958 Robert P. Eischens
1959 George C. Pimentel
1960 Robert W. Taft, Jr.
1961 George S. Hammond
1962 Harold Hart
1963 John P. McCullough
1964 George A. Olah
1965 Glen A. Russell
1966 James Wei
1967 Andrew Streitwieser, Jr.
1968 Keith U. Ingold
1969 Alan Schriesheim
1970 Lloyd R. Snyder
1971 Gerasimos J. Karabatsos
1972 Paul G. Gassman
1973 Joe W. Hightower
1976 John H. Sinfelt
1977 Sidney W. Benson
1978 Ellis K. Fields
1979 Robert L. Banks
1980 William A. Pryor
1981 Herman Pines
1982 Irving Wender
1983 Robert L. Burwell, Jr.
1984 Cheves Walling
1985 Edward M. Arnett
1986 Frederick G. Bordwell
1987 W. Keith Hall
1988 Werner O. Haag
1989 Thomas Aczel
1990 Robert K. Grasselli
1991 David M. Grant

ACS Award in Polymer Chemistry sponsored by Mobil Chemical Company

Purpose. To recognize outstanding contributions to polymer chemistry.

Nature. The award consists of $5,000 and a certificate. An allowance of not more than $1,000 is provided for traveling expenses to the meeting at which the award is made.

Establishment and Support. Sponsorship of this award was assumed by Mobil Chemical Company in 1981. The award was established in 1962 by Witco Chemical Corporation Foundation.

Rules of Eligibility. The award shall be granted without regard to age or nationality.

Recipients

1964 Carl S. Marvel
1965 Herman F. Mark
1966 Walter H. Stockmayer
1967 Frank R. Mayo
1968 Charles G. Overberger
1969 Frank A. Bovey
1970 Michael M. Szwarc
1971 Georges J. Smets
1972 Arthur V. Tobolsky
1973 Turner Alfrey, Jr.
1974 John D. Ferry
1975 Leo Mandelkern
1976 Paul W. Morgan
1977 William J. Bailey
1978 Junji Furukawa
1979 Henri Benoit
1980 George B. Butler
1981 E.J. Vandenberg
1982 John K. Stille
1983 Richard S. Stein
1984 Harry R. Allcock
1985 Joseph P. Kennedy
1986 Herbert Morawetz
1987 V.T. Stannett
1988 Pierre deGennes
1989 William R. Krigbaum
1990 Harold A. Scheraga
1991 Marshall Fixman

ACS Award in Pure Chemistry sponsored by Alpha Chi Sigma Fraternity

Purpose. To recognize and encourage fundamental research in pure chemistry carried out in North America by young men and women.

Nature. The award consists of $4,000 and a certificate setting forth the reasons for the award. The traveling expenses to the meeting at which the award will be presented are paid.

Establishment and Support. The award was established in 1931 by A.C. Langmuir and was supported by A.C. and Irving Langmuir through 1937. In 1938, James Kendall financed the prize. No award was made in 1939. In 1940, Alpha Chi Sigma Fraternity assumed the financial obligation and has continued its support.

Rules of Eligibility. A nominee must not have passed his or her 36th birthday on April 30, 1992, and must have accomplished research of unusual merit for an individual on the threshold of his/her career. Special consideration is given to independence of thought and the originality shown in the research, which must have been carried out in North America.

Recipients

1931 Linus Pauling
1932 Oscar K. Rice
1933 Frank H. Spedding
1934 C. Frederick Koelsch
1935 Raymond M. Fuoss
1936 John Gamble Kirkwood
1937 E. Bright Wilson, Jr.
1938 Paul D. Bartlett
1940 Lawrence O. Brockway
1941 Karl A. Folkers
1942 John Lawrence Oncley
1943 Kenneth S. Pitzer
1944 Arthur C. Cope
1945 Frederick T. Wall
1946 Charles C. Price III
1947 Glenn T. Seaborg
1948 Saul Winstein
1949 Richard T. Arnold
1950 Verner Schomaker
1951 John C. Sheehan
1952 Harrison S. Brown
1953 William von E. Doering
1954 John D. Roberts
1955 Paul Delahay
1956 Paul M. Doty
1957 Gilbert J. Stork
1958 Carl Djerassi
1959 Ernest M. Grunwald
1960 Elias J. Corey
1961 Eugene E. van Tamelen
1962 Harden M. McConnell
1963 Stuart A. Rice
1964 Marshall Fixman
1965 Dudley Herschbach
1966 Ronald Breslow
1967 John D. Baldeschwieler
1968 Orville L. Chapman
1969 Roald Hoffmann
1970 Harry B. Gray
1971 R. Bruce King
1972 Roy G. Gordon
1973 John I. Brauman
1974 Nicholas J. Turro
1975 George M. Whitesides
1976 Karl F. Freed
1977 Barry M. Trost
1978 Jesse L. Beauchamp
1979 Henry F. Schaefer III
1980 John E. Bercaw
1981 Mark S. Wrighton
1982 Stephen R. Leone
1983 Michael J. Berry
1984 Eric Oldfield
1985 Ben S. Freiser
1986 Peter G. Wolynes
1987 George McLendon
1988 Jacqueline K. Barton
1989 Stuart L. Schreiber
1990 Peter G. Schultz
1991 Nathan S. Lewis

ACS Award in Separations Science and Technology sponsored by Rohm and Haas Company

Purpose. To recognize outstanding accomplishments in fundamental or applied research directed to separations science and technology.

Nature. The award consists of $5,000 and a plaque. Travel expenses incidental to conferment of the award will be reimbursed. The recipient will deliver a lecture at the annual I&EC Division Separation Science and Technology Symposium.

Establishment and Support. The award was established in 1982 by Rohm and Haas Company to recognize contributions of scientists and engineers working in separations science and technology.

Rules of Eligibility. The award shall be granted to an individual without regard to age or nationality. The scope of the award is to be as broad as possible covering all fields where separation science and technology is practiced including (but not limited to) biology, chemistry, engineering, geology and medicine.

Recipients

1984 D. B. Broughton
1985 Alan S. Michaels
1986 J. Calvin Giddings
1987 Friedrich G. Helfferich
1988 Norman N. Li
1989 Jay M. S. Henis
1990 Henry Freiser
1991 Georges Guiochon

ACS Award in the Chemistry of Materials sponsored by E. I. du Pont de Nemours & Company

Purpose. To recognize and encourage creative work in the chemistry of materials.

Nature. The award consists of $5,000 and an inscribed certificate. Travel expenses incidental to the conferment of the award will be reimbursed.

Establishment and Support. The award was established in 1988 by E.I du Pont de Nemours & Company to commemorate the fiftieth anniversary of the commercialization of nylon and of the discovery of Teflon®.

Rules of Eligibility. A nominee must have made outstanding contributions to the chemistry of materials. Particular emphasis will be placed on research relating to materials of actual or potential technological importance, where a fundamental understanding of the chemistry associated with materials preparation, processing or use is critical. The award will be granted without regard to the nominee's age or nationality.

Recipients

1990 Robert A. Laudise
1991 C. Grant Willson

Roger Adams Award in Organic Chemistry sponsored by Organic Reactions, Inc. and Organic Syntheses, Inc.

Purpose. To recognize and encourage outstanding contibutions to research in organic chemistry defined in its broadest sense.

Nature. The award consists of a gold medal, a sterling silver replica of the medal, and $15,000. The award will be presented biennially. The recipient shall deliver a lecture at the Biennial National Organic Chemistry Symposium of the American Chemical Society at which time the award will be presented. The travel expenses to the Symposium will be paid.

Establishment and Support. The award was established in 1959 by Organic Syntheses, Inc. and Organic Reactions, Inc., and is sponsored by those organizations and the Division of Organic Chemistry of the American Chemical Society. The first award was made in 1959.

Rules of Eligibility. The award shall be granted to an individual without regard to nationality for outstanding contributions to research in organic chemistry defined in its broadest sense.

(This award is not scheduled for presentation in 1992.)

Recipients

1959 D.H.R. Barton
1961 Robert B. Woodward
1963 Paul D. Bartlett
1965 Arthur C. Cope
1967 John D. Roberts
1969 Vladimir Prelog
1971 Herbert C. Brown
1973 Georg Wittig
1975 Rolf Huisgen
1977 William S. Johnson
1979 Melvin S. Newman
1981 Nelson J. Leonard
1983 A. R. Battersby
1985 Donald J. Cram
1987 Jerome A. Berson
1989 George A. Olah
1991 Gilbert J. Stork

Alfred Bader Award in Bioinorganic or Bioorganic Chemistry

Purpose. To recognize outstanding contributions to bioorganic or bioinorganic chemistry.

Nature. The award consists of $3,000 and a certificate. Travel expenses incidental to conferment of the award will be reimbursed. The recipient's award address will be reprinted in *Aldrichimica Acta.*

Establishment and Support. The award was established in 1986, and is financed by a gift to the Society from Alfred R. Bader.

Rules of Eligibility. The award shall be for outstanding research accomplishments without regard to age or nationality. The award is intended to recognize significant accomplishments which are at the interface between biology and organic or inorganic chemistry. Special consideration will be given to applications of the fundamental principles and experimental methodology of chemistry to areas of biological significance.

Recipients

1988 Thomas Bruice
1989 Jeremy R. Knowles
1990 Harry B. Gray
1991 Robert H. Abeles

Earle B. Barnes Award for Leadership in Chemical Research Management sponsored by The Dow Chemical Company

Purpose. To recognize outstanding achievements in chemical research management.

Nature. The award consists of $5,000 and a suitably inscribed certificate. The traveling expenses of the recipient to the meeting at which the award is presented are to be paid by the award's sponsor.

Establishment and Support. The award was established in 1982 by The Dow Chemical Company.

Rules of Eligibility. A nominee must be a citizen of the United States. The award is intended to recognize those individuals who have demonstrated outstanding leadership and creativity in promoting the sciences of chemistry and chemical engineering in research management. Nominees should have demonstrated success in research management by exhibiting the proven ability to manage research projects and people. This leadership and creativity must have been demonstrated by a record of successful research projects and by a strong motivation of the researchers on those projects. Recognition of these accomplishments by peers is essential.

Recipients

1984 James F. Mathis
1985 H.W. Coover
1986 Robert M. Adams
1987 Malcolm E. Pruitt
1988 William P. Slichter
1989 George W. Parshall
1990 John R. Thomas
1991 Lester C. Krogh

Alfred Burger Award in Medicinal Chemistry sponsored by SmithKline Beecham

Purpose. To recognize outstanding contributions to research in medicinal chemistry.

Nature. The award consists of $3,000 and a plaque commemorating the award event. The traveling expenses of the recipient incidental to the conferring of the award are paid. The award will be presented biennially in even-numbered years and the recipient shall present an award address at the spring meeting of the Division of Medicinal Chemistry.

Establishment and Support. The award was established in 1978 by SmithKline Corporation.

Rules of Eligibility. The award shall be granted for outstanding contributions in the field of medicinal chemistry without regard to age or nationality.

Recipients

1980 T. Y. Shen
1982 David W. Cushman and Miguel A. Ondetti
1984 George H. Hitchings
1986 John A. Montgomery
1988 Roland K. Robins
1990 Arnold Brossi

James Bryant Conant Award in High School Chemistry Teaching sponsored by Ethyl Corporation

Purpose. To recognize, encourage, and stimulate outstanding teachers of high school chemistry in the United States, its possessions or territories, at both the regional and national levels.

Nature. The national award consists of $5,000 and a certificate. Expenses incidental to traveling to the meeting at which the award will be presented will be paid.

Establishment and Support. Sponsorship of this award was assumed by Ethyl Corporation in 1978. From 1975-79 the award was sponsored by CHEM Study (The Chemical Education Material Study). The award was established in 1956 by E.I. du Pont de Nemours & Company Incorporated and supported for the years 1967-72. The award was financed by the American Chemical Society for the years 1973-74.

Rules of Eligibility.

• **The Regional Award.** Nominations are made only by local sections of the ACS. Each local section is limited to one candidate each year. (Individuals wishing to propose a candidate for consideration should submit such nomination to the ACS local section in their locality.) The deadline for submission of nominations is December 1.

• **The National Award.** Each winner of an ACS Regional Award in High School Chemistry Teaching automatically becomes a candidate for the James Bryant Conant Award in the following year and remains a candidate for three successive years unless (a) he or she is selected as a recipient of the Conant Award, or (b) his or her nomination is withdrawn by the nominating local section. One of the regional winners or candidates will be selected as the recipient of the James Bryant Conant Award in High School Chemistry Teaching. Selection will be made by a national award committee. **(A separate brochure describing this award is available upon request.)**

Recipients

1967 Dist. 1: Raymond T. Byrne
1967 Dist. 2: Elaine M. Kilbourne
1967 Dist. 3: Harry C. Taylor
1967 Dist. 4: Theodore E. Molitor
1967 Dist. 5: Elaine W. Ledbetter
1967 Dist. 6: Harold E. Alexander
1968 Dist. 1: Daniel P. Corr
1968 Dist. 2: Harold W. Ferguson
1968 Dist. 3: Robert M. Sims
1968 Dist. 4: Charles F. McClary
1968 Dist. 5: Marion Nottingham
1968 Dist. 6: George T. Bazzetta
1969 Dist. 1: Eliz. V. Lamphere
1969 Dist. 2: Jos. S. Schmuckler
1969 Dist. 3: Lee R. Summerlin
1969 Dist. 4: Ben O. Propeck
1969 Dist. 5: Frank S. Quiring
1969 Dist. 6: W. Keith MacNab
1970 Dist. 1: Dorothy W. Gifford
1970 Dist. 2: James V. DeRose
1970 Dist. 3: William B. Robertson
1970 Dist. 4: Newell Smeby
1970 Dist. 5: Charles D. Mickey
1970 Dist. 6: George Birrell
1971 Dist. 1: Elizabeth W. Sawyer
1971 Dist. 2: Audrey J. Cheek
1971 Dist. 3: Bernard Toan
1971 Dist. 4: Leo J. Klosterman
1971 Dist. 5: Clara Weisser
1971 Dist. 6: Nellie G. Fletcher
1972 Dist. 1: Frank J. Tuzzolino
1972 Dist. 2: Albert J. Judge
1972 Dist. 3: Anne A. Wiseman
1972 Dist. 4: Henrietta A. Parker
1972 Dist. 5: Harold L. Pearson
1972 Dist. 6: Irma Greisel
1973 Melvin Greenstadt
1974 Wallace J. Gleekman
1975 George W. Stapleton
1976 Dorthea H. Hoffmann
1977 Sidney P. Harris
1978 Samuel H. Perlmutter
1979 Shirley E. Richardson
1980 Evelyn R. Bank
1981 Floyd F. Sturtevant
1982 Robert Roe, Jr.
1983 Janet A. Harris
1984 Douglas A. Halsted
1985 Douglas D. Smith
1986 Ronald I. Perkins
1987 Mary C. Johnson
1988 Edmund J. Escudero
1989 Clifford L. Schrader
1990 John Liebermann, Jr.
1991 Mary E. Key

Arthur C. Cope Award

Purpose. To recognize outstanding achievement in the field of organic chemistry, the significance of which has become apparent within the five years preceding the year in which the award will be considered.

Nature. The award consists of a gold medal, a bronze replica of the medal, and $15,000. The travel expenses incidental to the conferring of the award will be paid.

In addition, an unrestricted grant-in-aid of $30,000 for research in organic chemistry, under the direction of the recipient, designated as an Arthur C. Cope Fund Grant, will be made to any university or nonprofit institution selected by the recipient. A recipient may choose to assign the Arthur C. Cope Fund Grant to an institution for use by others than the recipient for research or education in organic chemistry.

Establishment and Support. In 1972 the ACS Board of Directors accepted responsibility for administering an award created under the terms of the will of Arthur C. Cope.

Rules of Eligibility. The award shall be granted to an individual without regard to age or nationality for outstanding achievement in the field of organic chemistry.

Recipients

1973 Robert B. Woodward and Roald Hoffmann
1974 Donald J. Cram
1976 Elias J. Corey
1978 Orville L. Chapman
1980 Gilbert Stork
1982 Frank H. Westheimer
1984 Albert Eschenmoser
1986 Duilio Arigoni
1987 Ronald Breslow
1988 Kenneth B. Wiberg
1989 William S. Johnson
1990 Koji Nakanishi
1991 Gerhard L. Closs

Arthur C. Cope Scholar Award

Purpose. To recognize and encourage excellence in organic chemistry.

Nature. The award consists of a certificate and a $20,000 unrestricted research grant to be assigned by the recipient to any university or nonprofit institution. The recipient is required to deliver a lecture at the annual Arthur C. Cope Symposium. Traveling expenses incidental to participation in the Symposium will be paid.

Establishment and Support. The Arthur C. Cope Scholar Awards were established in 1984 by the ACS Board of Directors, on recommendation of the ACS Division of Organic Chemistry, under the terms of the will of Arthur C. Cope. The Cope Scholar Awards are supported by income from the Arthur C. Cope Fund administered by ACS.

Rules of Eligibility. Up to ten Arthur C. Cope Scholars will be named annually, with a balanced distribution among the following age groups: no more than four scientists under age thirty-six; no more than five scientists between the ages of thirty-six and forty-nine, inclusive; and no more than four scientists over fifty. No individual may receive a second Arthur C. Cope Scholar Award. Recipients of the Arthur C. Cope Award are ineligible to be named Arthur C. Cope Scholars.

Nominating Procedure. Candidates must be nominated with a deadline of **December 1, 1990.** The letter of nomination, authored by a colleague qualified to evaluate the nominee's accomplishments, should provide specific identification of the work to be recognized including literature and/or patent references. A biographical sketch, including date of birth, and a list of publications and patents should be furnished. No seconding letters are necessary for this award. **(A separate brochure describing this award is available upon request.)**

Recipients

1986 Anthony G. M. Barrett
1986 John I. Brauman
1986 James P. Collman
1986 Samuel Danishefsky
1986 Peter B. Dervan
1986 Paul G. Gassman
1986 Henry Rapoport
1986 Stuart L. Schreiber
1986 K. Barry Sharpless
1986 Kenneth B. Wiberg
1987 Robert G. Bergman
1987 Thomas C. Bruice
1987 Emil T. Kaiser
1987 Satoru Masamune
1987 Albert I. Meyers
1987 K. C. Nicolaou
1987 Leo A. Paquette
1987 Nicholas J. Turro
1988 S. J. Benkovic
1988 Dale L. Boger
1988 Charles P. Casey
1988 Dennis P. Curran
1988 David A. Evans
1988 John A. Gladysz
1988 Kendall N. Houk
1988 Yoshito Kishi
1988 Jay K. Kochi
1988 W. Clark Still
1989 Norman L. Allinger
1989 Scott E. Denmark
1989 Marye Anne Fox
1989 Jeremy R. Knowles
1989 Jerrold Meinwald
1989 Larry E. Overman
1989 Andrew Streitwieser, Jr.
1989 Barry M. Trost
1989 George M. Whitesides
1990 Edward M. Arnett
1990 Paul A. Bartlett
1990 Paul A. Grieco
1990 Robert H. Grubbs
1990 Clayton H. Heathcock
1990 William Jorgensen
1990 Peter G. Schultz
1990 John K. Stille
1990 Harry Wasserman
1990 Paul A. Wender
1991 Frederick G. Bordwell
1991 Stephen Buchwald
1991 William G. Dauben
1991 John T. Groves
1991 Julius Rebek, Jr.
1991 Paul von R. Schleyer
1991 Jonathan L. Sessler
1991 Amos B. Smith III
1991 K. P. C. Vollhardt
1991 Howard E. Zimmerman

The Peter Debye Award in Physical Chemistry sponsored by E.I. du Pont de Nemours & Company

Purpose. To encourage and reward outstanding research in physical chemistry.

Nature. The award consists of $5,000 and a certificate. Traveling expenses to the meeting at which the award will be presented will be paid.

Establishment and Support. Sponsorship of this award was assumed by E.I. du Pont de Nemours & Company in 1979. The award was established in 1960 by Humble Oil and Refining Company. From 1970-1976 the award was sponsored by Exxon Chemical Company U.S.A. No awards were presented in 1977 through 1980.

Rules of Eligibility. A nominee must have accomplished outstanding research of a theoretical or experimental nature in the field of physical chemistry. The award will be granted without regard to age or nationality.

Recipients

1962 E. Bright Wilson, Jr.
1963 Robert S. Mulliken
1964 Henry Eyring
1965 Lars Onsager
1966 Joseph O. Hirschfelder
1967 Joseph E. Mayer
1968 George B. Kistiakowsky
1969 Paul J. Flory
1970 Oscar K. Rice
1971 Norman Davidson
1972 Clyde A. Hutchison, Jr.
1973 William N. Lipscomb, Jr.
1974 Walter H. Stockmayer
1975 H. S. Gutowsky
1976 Robert W. Zwanzig
1981 Richard B. Bernstein
1982 Peter M. Rentzepis
1983 George C. Pimentel
1984 B.S. Rabinovitch
1985 Stuart A. Rice
1986 Yuan T. Lee
1987 Harry G. Drickamer
1988 Rudolph A. Marcus
1989 Gabor Somorjai
1990 Harden M. McConnell
1991 Richard N. Zare

The Frank H. Field and Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry sponsored by Extrel Corporation

Purpose. To recognize outstanding achievement in the development or application of mass spectrometry.

Nature. The award consists of $3,000 and a certificate. An allowance of up to $1,000 is provided for traveling expenses to the meeting at which the award is presented.

Establishment and Support. This award was established in 1983 by Extrel Corporation.

Rules of Eligibility. The award shall be granted without regard to age, nationality, or the date of the achievement recognized by the award. In odd-numbered years the award will be presented for advances in techniques or fundamental processes in mass spectrometry. Recognition will be given in even-numbered years to development of the applications of mass spectrometry.

Recipients

1985 A. O. C. Nier
1986 Klaus Biemann
1987 John Beynon
1988 Frank H. Field
1989 Fred W. McLafferty
1990 Evan C. and Marjorie G. Horning
1991 R. Graham Cooks

Garvan Medal sponsored by Olin Corporation

Purpose. To recognize distinguished service to chemistry by women chemists, citizens of the United States.

Nature. The award consists of $5,000, a suitably inscribed gold medal, and a bronze replica of the medal. An allowance of $1,000 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. The award was established in 1936 through a donation from Francis P. Garvan and has been supported by a Fund set up at that time. The award was sponsored by W. R. Grace & Co. for the years 1979-83. Effective with the 1984 award, Olin Corporation assumed sponsorship.

Rules of Eligibility. A nominee must be a citizen of the United States and have performed distinguished service to chemistry.

Recipients

1937 Emma P. Carr
1940 Mary E. Pennington
1942 Florence B. Seibert
1946 Icie G. Macy-Hoobler
1947 Mary Lura Sherrill
1948 Gerty T. Cori
1949 Agnes Fay Morgan
1950 Pauline Beery Mack
1951 Katherine B. Blodgett
1952 Gladys A. Emerson
1953 Leonora N. Bilger
1954 Betty Sullivan
1955 Grace Medes
1956 Allene R. Jeanes
1957 Lucy W. Pickett
1958 Arda A. Green
1959 Dorothy V. Nightingale
1960 Mary L. Caldwell
1961 Sarah Ratner
1962 Helen M. Dyer
1963 Mildred Cohn
1964 Brigit Vennesland
1965 Gertrude E. Perlmann
1966 Mary L. Peterman
1967 Marjorie J. Vold
1968 Gertrude B. Elion
1969 Sofia Simmonds
1970 Ruth R. Benerito
1971 Mary Fieser
1972 Jean'ne M. Shreeve
1973 Mary L. Good
1974 Joyce J. Kaufman
1975 Marjorie C. Caserio
1976 Isabella L. Karle
1977 Marjorie G. Horning
1978 Madeleine M. Jouillié
1979 Jenny P. Glusker
1980 Helen M. Free
1981 Elizabeth K. Weisburger
1982 Sara Jane Rhoads
1983 Ines Mandl
1984 Martha L. Ludwig
1985 Catherine C. Fenselau
1986 Jeanette G. Grasselli
1987 Janet G. Osteryoung
1988 Marye Anne Fox
1989 Kathleen C. Taylor
1990 Darleane C. Hoffman
1991 Cynthia M. Friend

James T. Grady-James H. Stack Award for Interpreting Chemistry for the Public

Purpose. To recognize, encourage and stimulate outstanding reporting directly to the public, which materially increases the public's knowledge and understanding of chemistry, chemical engineering, and related fields.

Nature. The award consists of $3,000, a gold medal, and a bronze replica of the medal. Traveling expenses to the meeting at which the award is presented will be reimbursed.

Establishment and Support. The award was established in 1955 and is supported by the American Chemical Society.

Rules of Eligibility. A nominee must have made noteworthy presentations through a medium of public communication to increase the American public's understanding of chemistry and chemical progress. This information shall have been disseminated through the press, radio, television, films, the lecture platform, or books or pamphlets for the lay public. **(A separate brochure describing this award is available upon request.)**

Recipients

1957 David H. Killeffer
1958 William L. Laurence
1959 Alton L. Blakeslee
1960 Watson Davis
1961 David Dietz
1962 John F. Baxter
1963 Lawrence Lessing
1964 Nate Haseltine
1965 Isaac Asimov
1966 Frank E. Carey
1967 Irving S. Bengelsdorf
1968 Raymond A. Bruner
1969 Walter Sullivan
1970 Robert C. Cowen
1971 Victor Cohn
1972 Dan Q. Posin
1973 O. A. Battista
1974 Ronald Kotulak
1975 Jon Franklin
1976 Gene Bylinsky
1977 Patrick Young
1978 Michael Woods
1979 Peter Gwynne
1980 Edward Edelson
1981 Robert W. Cooke
1982 Albert Rosenfeld
1983 Matt Clark
1984 Cristine Russell
1985 Joe Alper
1986 Ben Patrusky
1987 Al Rossiter, Jr.
1988 Arthur Fisher
1989 Robert Kanigel
1990 Jerry E. Bishop
1991 Betty Debnam

The Ernest Guenther Award in the Chemistry of Essential Oils and Related Products sponsored by Fritzsche Dodge & Olcott Inc.

Purpose. To recognize and encourage outstanding achievements in analysis, structure elucidation, chemical synthesis of essential oils, isolates, flavors and related substances.

Nature. The award consists of $3,000 and a medal. An allowance of $1,000 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. The award was established in 1948 by Fritzsche Dodge and Olcott Inc., in commemoration of the 75th anniversary of the founding of the company.

Rules of Eligibility. A nominee must have accomplished outstanding work in analysis, structure elucidation, chemical synthesis of essential oils, isolates, flavors and related substances. Special consideration will be given to the independence of thought and originality shown. This award shall be granted without regard to age or nationality.

Recipients

1949 John L. Simonsen
1950 A. J. Haagen-Smit
1951 Edgar Lederer
1952 Yves-Rene Naves
1953 Max Stoll
1954 A. R. Penfold
1955 Hans Schinz
1956 Herman Pines
1957 D. H. R. Barton
1958 George H. Buchi
1959 Frantisek Sorm
1960 Carl Djerassi
1961 C. F. Seidel
1962 E. R. H. Jones
1963 Arthur J. Birch
1964 Oscar Jeger
1965 Konrad E. Bloch
1966 Albert J. Eschenmoser
1967 George A. Sim
1968 Elias J. Corey
1969 John W. Cornforth
1970 Duilio Arigoni
1971 Ernest Wenkert
1972 Guy Ourisson
1973 William G. Dauben
1974 Gûnther Ohloff
1975 S. Morris Kupchan
1976 Alastair I. Scott
1977 Robert E. Ireland
1978 Koji Nakanishi
1979 James A. Marshall
1980 Sukh Dev
1981 Samuel Danishefsky
1982 Paul A. Grieco
1983 Karel Wiesner
1984 Jerrold Meinwald
1985 David E. Cane
1986 Clayton H. Heathcock
1987 Wolfgang Oppolzer
1988 Paul A. Wender
1989 Henry Rapoport
1990 Barry Trost
1991 C. Dale Poulter

E. B. Hershberg Award for Important Discoveries in Medicinally Active Substances sponsored by Schering-Plough Corporation

Purpose. To recognize and encourage outstanding discoveries in the chemistry of medicinally active substances. The discovery for which the award is given should have been made during the last two decades.

Nature. The award consists of $3,000 and an inscribed certificate. Travel expenses to the meeting at which the award is presented will be reimbursed to a maximum of $1,000. The award will be presented biennially in odd-numbered years.

Establishment and Support. The award was established in 1988 by Schering-Plough Corporation to honor the contributions of Emanuel B. Hershberg to the pharmaceutical industry, especially the application of organic chemistry for the discovery and development of novel drugs.

Rules of Eligibility. The award shall be granted for outstanding discoveries and/or developments in the chemistry of medicinally active substances, without regard to age or nationality of the recipient.

(This award is not scheduled for presentation in 1992.)

Recipient

1991 George deStevens

Joel Henry Hildebrand Award in the Theoretical and Experimental Chemistry of Liquids sponsored by E. I. du Pont de Nemours & Company

Purpose. To recognize distinguished contributions to the understanding of the chemistry and physics of liquids.

Nature. The award consists of $3,000, a certificate, and an allowance of up to $1,000 for travel expenses incidental to conferral of the award.

Establishment and Support. The award was established in 1980 in recognition of the scientific contributions of ACS Past President Joel H. Hildebrand. The award was sponsored by Shell Companies Foundation, Incorporated for the years 1981–87. In 1988 sponsorship was assumed by the American Chemical Society. Beginning with the 1989 presentation E.I. duPont de Nemours, & Company became sponsor of the award. The first award was presented to Dr. Hildebrand as part of the observances of his hundredth birthday in November 1981.

Rules of Eligibility. The award shall be granted without regard to age or nationality.

Recipients

1981 Joel H. Hildebrand
1983 Jiri Jonas
1984 Robert L. Scott
1985 Berni J. Alder
1986 Frank H. Stillinger
1987 Stuart A. Rice
1988 Hans C. Andersen
1989 David Chandler
1990 John D. Weeks
1991 Howard Reiss

Ralph F. Hirschmann Award in Peptide Chemistry sponsored by Merck Sharp & Dohme Research Laboratories

Purpose. To recognize and encourage outstanding achievements in the chemistry, biochemistry, and biophysics of peptides.

Nature. The award consists of $5,000 and an inscribed certificate. Travel expenses incidental to the conferment of the award will be reimbursed.

Establishment and Support. The award was established in 1988 by Merck Sharp & Dohme Research Laboratories.

Rules of Eligibility. The nominee must have made outstanding contributions in the chemistry, biochemistry, or biophysics of peptides. The award shall be granted without regard to age or nationality of the recipient.

Recipients

1990 Bruce Merrifield
1991 Elkan R. Blout

Claude S. Hudson Award in Carbohydrate Chemistry sponsored by Merck Sharp & Dohme Research Laboratories

Purpose. To recognize outstanding contributions to carbohydrate chemistry, whether in education, research, or applications.

Nature. The award consists of $5,000 and a certificate. An allowance of up to $1,500 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. Sponsorship of this award was assumed by The Merck Sharp & Dohme Research Laboratories jointly with Kelco, Divisions of Merck & Co., Inc., in 1981. The award was established in 1946 by the Division of Carbohydrate Chemistry, ACS.

Rules of Eligibility. A nominee must have made outstanding contributions to carbohydrate chemistry. The award shall be granted without regard to age or nationality.

Recipients

1946 Claude S. Hudson
1947 Frederick J. Bates
1949 Frederick W. Zerban
1950 William B. Newkirk
1951 William D. Horne
1952 Melville L. Wolfrom
1953 George P. Meade
1954 Horace S. Isbell
1955 Kenneth R. Brown
1956 James M. D. Brown
1957 Julian K. Dale
1958 Hermann O. L. Fischer
1959 W. Ward Pigman
1960 Roy L. Whistler
1961 John C. Sowden
1962 Fred Smith
1963 Nelson K. Richtmyer
1964 Dexter French
1965 C. G. Caldwell
1966 Raymond U. Lemieux
1967 W. Z. Hassid
1968 Hewitt G. Fletcher, Jr.
1969 John K. Netherton Jones
1970 Norman F. Kennedy
1971 Robert S. Tipson
1972 Derek Horton
1973 Roger W. Jeanloz
1974 Wendell W. Binkley
1975 Hans H. Baer
1976 Sidney M. Cantor
1977 Jack J. Fox
1978 Michael Heidelberger
1979 Arthur S. Perlin
1980 George A. Jeffrey
1981 Clinton E. Ballou
1982 Stephen Hanessian
1983 Bengt Lindberg
1984 Laurens Anderson
1985 Hans Paulsen
1986 Gerald O. Aspinall
1987 Stephen J. Angyal
1988 Leslie Hough
1989 Walter A. Szarek
1990 Bertram O. Fraser-Reid
1991 Per J. Garegg

Ipatieff Prize

Purpose. To recognize outstanding chemical experimental work in the field of catalysis or high pressure, carried out by men or women of any nationality and not over forty years of age.

Nature. The award will consist of the income from a trust fund and a diploma setting forth the reasons for the award. The financial value of the prize may vary, but it is expected that it will be approximately $5,000 and that it will be awarded every three years. An allowance will be provided to cover travel expenses incidental to conferment of the award.

Establishment and Support. In 1943 the Board of Directors accepted responsibility for administering an award created by a trust agreement between Vladimir N. and Barbara Ipatieff and Northwestern University, establishing the Ipatieff Trust Fund, of which Northwestern University is the Trustee.

Rules of Eligibility. A nominee must not have passed his or her 40th birthday on April 30 of the year in which the award is presented, and shall have done outstanding chemical experimental work in the field of catalysis or high pressure. If experimental investigations in these fields shall have been abandoned to such a degree that no outstanding results have been achieved, then the award may be given for highly meritorious work in a closely allied field of chemistry. Special weight shall be given to the independence of thought and the originality shown. The award may be made for investigations carried out in any country and without consideration of the nationality of the recipient. Preference shall be given to American chemists.

Recipients

1947 Louis Schmerling
1950 Herman E. Ries
1953 Robert B. Anderson
1956 Harry G. Drickamer
1959 Cedomir M. Sliepcevich
1962 Charles Kemball
1965 Robert H. Wentorf, Jr.
1968 Charles R. Adams
1971 Paul B. Venuto
1974 George A. Samara
1977 Charles A. Eckert
1980 Denis Forster
1983 D. Wayne Goodman
1986 Robert M. Hazen
1989 Alexander M. Klibanov

Frederic Stanley Kipping Award in Organosilicon Chemistry sponsored by Dow Corning Corporation

Purpose. To recognize distinguished achievement in research in organosilicon chemistry and, by such example, to stimulate the creativity of others toward further advancement of this field of chemistry.

Nature. The award consists of $3,000 and a certificate. An allowance will be provided to cover travel expenses incidental to conferment of the award. The award will be presented biennially in even-numbered years starting in 1978.

Establishment and Support. The award was established in 1960 by Dow Corning Corporation to commemorate the achievements of Prof. Frederic Stanley Kipping

Rules of Eligibility. A nominee must have accomplished distinguished achievement in research in organosilicon chemistry during the preceding ten years. The measure of this achievement should focus primarily on the nominee's significant publications in the field of organosilicon chemistry but may include consideration of contributions to the related field of organometallic chemistry, particularly embracing the elements of Group IV. There are no limits on age or on nationality.

Recipients

1962 Henry Gilman
1963 Leo H. Sommer
1964 Colin Eaborn
1965 Eugene G. Rochow
1966 Gerhard Fritz
1967 Makoto Kumada
1968 Ulrich Wannagat
1969 Robert A. Benkeser
1970 Robert West
1971 Alan G. MacDiarmid
1972 Dietmar Seyferth
1973 Adrian G. Brook
1974 Hubert Schmidbaur
1975 Hans Bock
1976 Michael F. Lappert
1978 Hideki Sakurai
1980 E. A. V. Ebsworth
1982 Thomas J. Barton
1984 Robert J. P. Corriu
1986 Peter P. Gaspar
1988 Raymond Calas
1990 John L. Speier, Jr.

The Irving Langmuir Award in Chemical Physics sponsored by The General Electric Foundation

Purpose. To recognize and encourage outstanding interdisciplinary research in chemistry and physics, in the spirit of Irving Langmuir.

Nature. The award consists of $10,000 and a scroll and is presented in even-numbered years. (Selection and presentation is made by the Divison of Chemical Physics of the American Physical Society in odd-numbered years.) An allowance is provided for traveling expenses to the meeting at which the award is presented.

Establishment and Support. The award was established in 1964 by The General Electric Foundation.

Rules of Eligibility. A nominee must have made an outstanding contribution to chemical physics or physical chemistry within the ten years preceding the year in which the award is made. The award shall be granted without restriction, except that the recipient must be a resident of the United States and the monetary prize must be used in the United States or its possessions.

Recipients

1965 John H. Van Vleck*
1966 H. S. Gutowsky
1967 John C. Slater*
1968 Henry Eyring
1969 Charles P. Slichter*
1970 John A. Pople
1971 Michael E. Fisher*
1972 Harden M. McConnell
1973 Peter M. Rentzepis*
1974 Harry G. Drickamer
1975 Robert H. Cole*
1976 John S. Waugh

1977 Aneesur Rahman*
1978 Rudolph A. Marcus
1979 Donald S. McClure*
1980 William Klemperer
1981 Willis H. Flygare*
1982 Benjamin Widom
1983 Dudley R. Herschbach*
1984 Robert Zwanzig
1985 Richard N. Zare*
1986 Sidney W. Benson
1987 Martin Karplus*
1988 Richard B. Bernstein
1989 Frank H. Stillinger*
1990 William H. Miller

*Selection and presentation made by the Division of Chemical Physics of the American Physical Society.

E. V. Murphree Award in Industrial and Engineering Chemistry sponsored by Exxon Research and Engineering Company and Exxon Chemical Company

Purpose. To stimulate fundamental research in industrial and engineering chemistry, the development of chemical engineering principles and their application to industrial processes.

Nature. The award consists of $5,000 and a certificate. An allowance of not more than $1,000 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. The award was established in 1955 by Exxon Research and Engineering Company.

Rules of Eligibility. A nominee must have accomplished outstanding research of a theoretical or experimental nature in the fields of industrial chemistry or chemical engineering. The award shall be granted without regard to age or nationality.

Recipients

1957 Warren K. Lewis
1958 duBois Eastman
1959 Edwin R. Gilliland
1960 Neal R. Amundson
1961 Olaf A. Hougen
1962 Eugene J. Houdry
1963 Manson Benedict
1964 Bruce H. Sage
1965 Vladimir Haensel
1966 Richard H. Wilhelm
1967 Alfred Clark
1968 Melvin A. Cook
1969 Alex G. Oblad
1970 Peter V. Danckwerts
1971 Heinz Heinemann
1972 Paul B. Weisz
1973 Thomas K. Sherwood
1974 Herman S. Bloch
1975 Donald L. Katz
1976 James F. Roth
1977 Alexis Voorhies, Jr.
1978 Donald F. Othmer
1979 John M. Prausnitz
1980 Milton Orchin
1981 G. Alex Mills
1982 Sol W. Weller
1983 Herman Pines
1984 Robert K. Grasselli
1985 Michel Boudart
1986 John H. Sinfelt
1987 Wolfgang M. H. Sachtler
1988 Jule A. Rabo
1989 Warren E. Stewart
1990 L. E. Scriven
1991 Richard Alkire

Nobel Laureate Signature Award for Graduate Education in Chemistry sponsored by J. T. Baker Inc.

Purpose. To recognize an outstanding graduate student and his or her preceptor(s), in the field of chemistry, as broadly defined.

Nature. The graduate student will receive $3,000 and a plaque containing the signatures of Nobel Laureates. The student's preceptor(s) will receive $3,000 and a plaque for permanent display in the institution's Chemistry Department. Traveling expenses of recipients incidental to the conferring of the award will be paid.

Establishment and Support. The award was established in 1978 by J. T. Baker Inc. as the Nobel Laureate Signature Award for a Graduate Student in Chemistry. In 1980 the award was extended to recognize the student's preceptor(s) and its title was changed.

Rules of Eligibility. The graduate student nominee must have completed a Ph.D. dissertation in chemistry within the 12-month period before the deadline for receipt of nominations. The award will recognize only work done while the nominee was a graduate student. This award shall be granted without regard to age or nationality.

Nominating Procedure. A nominating document shall consist of (1) a letter of nomination, (2) a brief biographical sketch of the graduate student nominee and the preceptor(s), (3) a synopsis of the nominee's Ph.D. dissertation no longer than ten (10) typewritten pages (double-spaced), and (4) one or two letters from experts in the field of the dissertation independently appraising its significance. Nominations will be judged by one or more committees appointed by the President-Elect of the Society. Nominees may subsequently be asked to submit five copies of the complete dissertation. All documents must be in English.

Note: The Nobel Laureate Signature Award for Graduate Education in Chemistry is sponsored by J. T. Baker Inc. and administered by the American Chemical Society. Designation of the award as the Nobel Laureate Signature Award is made with the acquiescence of the Nobel Foundation.

Recipients

1980 Wayne L. Gladfelter
1981 James C. Weisshaar
1982 Warren S. Warren and Alexander Pines
1983 David J. Nesbitt, James T. Hynes, and Stephen R. Leone
1984 Christopher S. Gudeman and R. Claude Woods
1985 Peter G. Schultz and Peter B. Dervan
1986 Robert L. Whetten, Gregory S. Ezra, and Edward R. Grant
1987 Mark D. Hollingsworth and J. Michael McBride
1988 David L. Clark and Malcolm H. Chisholm
1989 Nicholas J. Kirchner and Michael T. Bowers
1990 Yongqin Chen, Robert W. Field, and James L. Kinsey
1991 Susan T. Graul and Robert R. Squires

The James Flack Norris Award in Physical Organic Chemistry sponsored by the Northeastern Section, ACS

Purpose. To encourage and reward outstanding contributions to physical organic chemistry.

Nature. The award consists of $3,000 and a suitably engraved certificate. An allowance of not more than $1,000 is provided for traveling expenses to the meeting at which the award will be presented.

Establishment and Support. The award was established in 1963 by the Northeastern Section, ACS, in commemoration of James Flack Norris. It is maintained from the income of the Section's Norris Fund. (This award is distinct from the James Flack Norris Award of the Northeastern Section, ACS, for Outstanding Achievement in the Teaching of Chemistry, which is a local section award administered by the Northeastern Section, ACS.)

Rules of Eligibility. The award will be granted without restriction.

Recipients

1965 Christopher K. Ingold
1966 Louis P. Hammett
1967 Saul Winstein
1968 George S. Hammond
1969 Paul D. Bartlett
1970 Frank H. Westheimer
1971 Cheves Walling
1972 Stanley J. Cristol
1973 Kenneth B. Wiberg
1974 Gerhard L. Closs
1975 Kurt M. Mislow
1976 Howard E. Zimmerman
1977 Edward M. Arnett
1978 Jerome A. Berson
1979 John D. Roberts
1980 Ronald Breslow
1981 Jay K. Kochi
1982 Andrew Streitwieser, Jr.
1983 Glen A. Russell
1984 M. J. S. Dewar
1985 Paul G. Gassman
1986 John I. Brauman
1987 Paul von R. Schleyer
1988 Nicholas J. Turro
1989 William von E. Doering
1990 Norman L. Allinger
1991 Kendall N. Houk

Charles Lathrop Parsons Award

Purpose. To recognize outstanding public service by a member of the American Chemical Society.

Nature. The award consists of $3,000 and an appropriate plaque or scroll. An allowance not to exceed $1,000 is provided to reimburse the awardee for expenses incurred in traveling to the meeting at which the award is presented. The award normally shall be given not oftener than once every two years. However, the Board of Directors may at its discretion reduce the interval to one year for a candidate of its choice, if in its judgment circumstances in a given year warrant such action.

Establishment and Support. The award was established in 1952 by the American Chemical Society.

Rules of Eligibility. A nominee must be a member of the American Chemical Society and a citizen of the United States, and must have performed outstanding public service. Neither the scientific reputation nor the record of scientific achievement of a member affects his or her eligibility for this award, which—unlike most ACS awards—is *not* directed toward recognition of scientific accomplishment or stature. The public service to be recognized may be performed either as a part of or completely outside the regular duties and activities of the nominee's employment. Current members of the ACS Board of Directors are ineligible to receive this award.

Selection of Recipient. Nominations will be solicited from individuals using the channels customary for other awards. The Committee on Grants and Awards will present to the Board of Directors as part of the agenda for a meeting a screened list of no more than five candidates. The Board will be provided with (a) complete nominating documents for all candidates on the "screened list" and (b) a comprehensive listing of *all* current nominees (with supporting information relative to any candidate to be available on request). The selection will be made by the Board of Directors. The Committee on Grants and Awards will recommend a time and place for the presentation of the award and the awardee's response depending upon the identity of the recipient and the public service to be honored.

(This award is not scheduled for presentation in 1992.)

Recipients

1952 Charles L. Parsons
1955 James B. Conant
1958 Roger Adams
1961 George B. Kistiakowsky
1964 Glenn T. Seaborg
1967 Donald F. Hornig
1970 W. Albert Noyes, Jr.
1973 Charles C. Price
1974 Russell W. Peterson
1976 William O. Baker
1978 Charles G. Overberger
1983 James G. Martin
1985 Franklin A. Long
1987 Norman Hackerman
1989 Arnold O. Beckman
1991 Mary L. Good

George C. Pimentel Award in Chemical Education sponsored by Union Carbide Corporation

Purpose. To recognize outstanding contributions to chemical education.

Nature. The award consists of $5,000 and a suitably inscribed certificate. Traveling expenses to the meeting at which the award is presented will be paid.

Establishment and Support. Sponsorship of this award was assumed by Union Carbide Corporation effective with the 1978 presentation. The award was established as the ACS Award in Chemical Education in 1950 by Scientific Apparatus Makers Association and financed by its Laboratory Apparatus and Optical Sections through 1976. The Board of Directors voted that the Society sponsor the award for presentation in 1977.

Rules of Eligibility. A nominee must have made outstanding contributions to chemical education considered in its broadest meaning, including the training of professional chemists; the dissemination of reliable information about chemistry to prospective chemists, to members of the profession, to students in other fields, and to the general public; and the integration of chemistry into our educational system. The activities recognized by the award may lie in the fields of teaching (at any level), organization and administration, influential writing, educational research, the methodology of instruction, establishment of standards of instruction, and public enlightenment. Preference shall be given to U.S. citizens.

Recipients

1952 Joel H. Hildebrand
1953 Howard J. Lucas
1954 Raymond E. Kirk
1955 Gerrit Van Zyl
1956 Otto M. Smith
1957 Norris W. Rakestraw
1958 Frank E. Brown
1959 Harry F. Lewis
1960 Arthur F. Scott
1961 John C. Bailar, Jr.
1962 William G. Young
1963 Edward L. Haenisch
1964 Alfred B. Garrett
1965 Theodore A. Ashford
1966 W. Conway Pierce
1967 Louis F. Fieser
1968 William F. Kieffer
1969 L. Carroll King
1970 Hubert N. Alyea
1971 Laurence E. Strong
1972 J. Arthur Campbell
1973 Robert C. Brasted
1974 George S. Hammond
1975 William T. Lippincott
1976 Leallyn B. Clapp
1977 Robert W. Parry
1978 Lloyd N. Ferguson
1979 Gilbert P. Haight, Jr.
1980 Henry A. Bent
1981 Derek A. Davenport
1982 Anna J. Harrison
1983 Michell J. Sienko
1984 Arthur W. Adamson
1985 Glenn A. Crosby
1986 Bassam Z. Shakhashiri
1987 Linus Pauling
1988 Marjorie H. Gardner
1989 Joseph J. Lagowski
1990 George C. Pimentel
1991 John W. Moore

Priestley Medal

Purpose. To recognize distinguished services to chemistry.

Nature. The award consists of a gold medal designed to commemorate the work of Joseph Priestley, and a bronze replica of the medal. It may not be awarded more than once to the same individual. The traveling expenses incidental to the conferring of the medal are paid.

Establishment and Support. The award was established in 1922 by the American Chemical Society.

Rules of Eligibility. The Medal may be awarded not only to members of the Society, but to nonmembers and to representatives of any nation. Members of the ACS Board of Directors are ineligible to receive this award.

Selection of Medalist. Nominations will be solicited from individuals, using the channels customary for other awards. Each nominee for the Priestley Medal shall remain a nominee for three successive years without renomination, unless selected as medalist; the runner-up in any given year shall remain a nominee for the following year regardless of the number of years that individual has been a nominee. The Committee on Grants and Awards will present to the Board of Directors as part of the agenda for a meeting a screened list of no more than five candidates, including the runner-up from the previous year. The Board will be provided with (a) complete nominating documents for all candidates on the "screened list" and (b) a comprehensive listing of *all* current nominees (with supporting information relative to any candidate to be available on request). The Medalist will be selected by the Board of Directors.

Award Lecture. The recipient of the Priestley Medal may be invited to deliver an address at the general meeting of the ACS at its spring meeting.

Recipients

1923 Ira Remsen
1926 Edgar F. Smith
1929 Francis P. Garvan
1932 Charles L. Parsons
1935 William A. Noyes
1938 Marston T. Bogert
1941 Thomas Midgley, Jr.
1944 James B. Conant
1945 Ian Heilbron
1946 Roger Adams
1947 Warren K. Lewis
1948 Edward R. Weidlein
1949 Arthur B. Lamb
1950 Charles A. Kraus
1951 E. J. Crane
1952 Samuel C. Lind
1953 Robert Robinson
1954 W. Albert Noyes, Jr.
1955 Charles A. Thomas
1956 Carl S. Marvel
1957 Farrington Daniels
1958 Ernest H. Volwiler
1959 H. I. Schlesinger
1960 Wallace R. Brode
1961 Louis P. Hammett
1962 Joel H. Hildebrand
1963 Peter J. W. Debye
1964 John C. Bailar, Jr.
1965 William J. Sparks
1966 William O. Baker
1967 Ralph Connor
1968 William G. Young
1969 Kenneth S. Pitzer
1970 Max Tishler
1971 Frederick D. Rossini
1972 George B. Kistiakowsky
1973 Harold C. Urey
1974 Paul J. Flory
1975 Henry Eyring
1976 George S. Hammond
1977 Henry Gilman
1978 Melvin Calvin
1979 Glenn T. Seaborg
1980 Milton Harris
1981 Herbert C. Brown
1982 Bryce Crawford, Jr.
1983 Robert S. Mulliken
1984 Linus Pauling
1985 Henry Taube
1986 Karl A. Folkers
1987 John D. Roberts
1988 Frank H. Westheimer
1989 George C. Pimentel
1990 Roald Hoffmann
1991 Harry B. Gray

Henry H. Storch Award in Fuel Chemistry sponsored by Exxon Research and Engineering Company

Purpose. To recognize distinguished contributions to fundamental or engineering research on the chemistry and utilization of coal.

Nature. The award consists of $5,000, a certificate and an expense allowance of up to $1,500 for travel to the meeting at which the award will be presented.

Establishment and Support. The award was established in 1964 by the Division of Fuel Chemistry, ACS, and administered by the Division until 1985. Sponsorship of the award was assumed by Exxon Research and Engineering Company beginning with the 1987 presentation.

Rules of Eligibility. The award is given annually to an individual who has made the greatest contribution in the last five years to fundamental or engineering research on the chemistry and utilization of coal or related materials. The award shall be granted without regard to age or nationality.

Recipients

1964 Irving Wender
1965 Everett Gorin
1966 R. A. Friedel
1967 Henry R. Linden
1968 Joseph H. Field
1969 Philip L. Walker, Jr.
1971 George R. Hill
1972 Robert W. Van Dolah
1973 Arthur M. Squires
1974 R. Tracy Eddinger
1975 G. Alex Mills
1976 Heinz Sternberg
1977 Frank C. Schora
1978 Wendell H. Wiser
1979 D. D. Whitehurst
1980 Richard C. Neavel
1981 Sol W. Weller
1982 Herbert L. Retcofsky
1983 Jack B. Howard
1984 Peter H. Given
1985 John W. Larsen
1987 Leon M. Stock
1988 Randall E. Winans
1989 Harry Marsh
1990 Bradley C. Bockrath
1991 Peter R. Solomon

ACS Award for Outstanding Performance by Divisions

Purpose. To recognize outstanding activities and performance by divisions of the American Chemical Society.

Nature. The award consists of an appropriate certificate, to be presented to the officers of the division for the year's activities recognized by the award.

Establishment and Support. The award was established in 1983 by the Board of Directors of the Society.

Rules of Eligibility. A division will be selected for outstanding performance in the following areas: technical program, membership recruitment and service, administrative and fiscal responsibility, cooperative with local sections and regional meetings, furthering of chemical education.

Selection of Recipients. The Council Committee on Divisional Activities shall serve as the Awards Committee and, on the basis of the annual reports submitted by each division, will select the recipient in each of the following size categories: Large (over 2,000 members); Medium (700 to 2,000 members); and Small (under 700 members).

Recipients

Small

1982 Cellulose, Paper and Textile Division
1983 Division of Small Chemical Businesses
1984 Division of Geochemistry
1985 Division of Geochemistry
1986 Division of Nuclear Chemistry
1987 Division of Fluorine Chemistry
1988 Division of Fluorine Chemistry
1989 Division of Carbohydrate Chemistry
1990 Division of Fluorine Chemistry

Medium

1982 Division of Physical Chemistry
1983 Division of Chemical Information
1984 Division of Fuel Chemistry
1985 Division of Colloid and Surface Chemistry
1986 Division of Agricultural and Food Chemistry
1987 Rubber Division, Inc.
1988 Division of Chemical Information
1989 Rubber Division
1990 Rubber Division

Large

1982 Division of Chemical Education, Inc.
1983 Division of Polymer Chemistry, Inc.
1984 Division of Inorganic Chemistry
1985 Division of Polymer Chemistry, Inc.
1986 Division of Chemical Education, Inc.
1987 Division of Environmental Chemistry
1988 Division of Inorganic Chemistry
1989 Division of Chemical Education, Inc.
1990 Division of Polymer Chemistry, Inc.

ACS Award for Outstanding Performance by Local Sections

Purpose. To recognize outstanding activities and performance by local sections of the American Chemical Society.

Nature. The award consists of an appropriate certificate.

Establishment and Support. The award was established in 1967 by the Board of Directors of the Society.

Rules of Eligibility. A local section must have made outstanding contributions to: (a) the welfare of its members and the chemical profession, including teachers and students; and (b) the public's awareness of the importance of the chemical profession to the general welfare. These activities shall be described in the local section annual report submitted to the Executive Director of the Society.

Selection of Recipients. The Council Committee on Local Section Activities shall serve as the Awards Committee and, on the basis of the annual reports, make no awards, one award, or more than one award in each of the following size groups: small (under 200 members), medium small (200 to 399 members), medium (400 to 799 members), medium large (800 to 1999 members), and large (2000 members or more). Presentation of each award shall be made by the regional Director or designee at a regular meeting of the local section.

Recipients

Small

1968 Eastern North Carolina
1969 Mississippi
1970 Mississippi
1971 Mississippi
1972 Central Utah
1973 Western Vermont
1974 Permian Basin
1975 South Plains
1976 Mississippi
1977 Central Wisconsin
1978 Central Wisconsin
1979 Wilson Dam
1980 Central Wisconsin
1980 Norwich
1980 Wilson Dam
1981 Norwich
1981 Wichita Falls—Duncan
1982 Wichita Falls—Duncan
1983 Norwich
1984 Wichita Falls—Duncan
1985 Wichita Falls—Duncan
1986 Southwest Georgia
1986 Wichita Falls—Duncan
1987 Joliet
1988 Rock River
1989 Southwest Georgia
1990 Northwest Louisiana

Medium Small

1968 Central Arizona
1969 South Jersey
1970 South Jersey
1971 South Jersey
1972 Peoria
1973 Puerto Rico
1974 Kanawha Valley
1975 Central North Carolina
1976 Kanawha Valley
1977 Central North Carolina
1978 Portland
1979 Central North Carolina
1980 Central North Carolina
1980 Savannah River
1981 Corning
1981 Richland
1982 Corning
1983 Central North Carolina
1984 Corning
1985 Corning
1985 Puerto Rico
1986 Corning
1987 Kanawha Valley
1988 Corning
1989 Corning
1990 Brazosport

Medium

1982 Central North Carolina
1983 Northeast Oklahoma
1984 Northeast Oklahoma
1985 Central North Carolina

1986 Kansas City
1987 Kansas City
1988 Central North Carolina
1989 Dayton
1990 Central North Carolina
1990 Kansas City

Medium Large

1968 Eastern New York
1969 Virginia
1970 Louisiana
1971 Louisiana
1972 Eastern New York
1973 Milwaukee
1974 Midland
1975 Orange County
1976 Louisiana
1977 Kansas City
1978 Louisiana
1979 Eastern New York
1980 Kalamazoo
1981 Kalamazoo
1982 Rochester
1983 Rochester
1984 St. Louis
1985 Cincinnati
1986 Cincinnati
1987 St. Louis
1988 Cincinnati
1989 Cincinnati
1989 Virginia
1990 Akron

Large

1968 Philadelphia
1969 Connecticut Valley
1970 Rochester
1971 Akron
1972 Akron
1973 Delaware
1974 Delaware
1975 Delaware
1976 Delaware
1977 Delaware
1978 Rochester
1979 Akron
1980 St. Louis
1981 Akron
1981 California
1981 St. Louis
1982 New York
1983 Delaware
1984 Delaware
1985 North Jersey
1986 North Jersey
1987 Chicago
1987 New York
1988 Delaware
1989 Chicago
1990 Northeastern

Board of Directors Distinguished Service Award for Senior ACS Administrators

Purpose. To recognize distinguished service to the Society over a period of years.

Nature. The award consists of a cash amount to be determined by the Board, and an appropriate scroll or medal. Travel expenses incidental to conferring the award are paid.

Establishment and Support. The award was established in 1988 by the Board of Directors of the American Chemical Society.

Rules of Eligibility. The award is given at irregular intervals at the discretion of the Board to recognize outstanding service to the Society by a senior staff member over a period of years. It may be given to the widow or widower or child(ren) (as appropriate) of the person recognized.

Selection of Recipient. The recipient is selected by the Board of Directors and receives the award on or after retirement.

Recipient

1989 Rodney N. Hader

Statement of Policy for ACS Awards

1. *Purpose.* The Society shall recognize and honor those who advance farthest the objects of the Society as stated in its National Charter and Constitution.

2. *Scope.* All segments of the Society, including local sections, divisions, and regional organizations, may establish awards.

3. Awards given by local sections, divisions or regions shall be administered in accordance with the governing documents of the appropriate division, local section, or regional organization.

4. The administration of National Awards shall ordinarily be in accordance with the following principles:

a. The area to be recognized shall be defined in a manner to assure that an adequate number of qualified candidates will be available throughout the life of the award.

b. The establishment of duplicating or overlapping awards shall be avoided.

c. The awards given shall reflect current activities and developments in both traditional and newly emerging areas of chemistry.

d. The award shall be called the "American Chemical Society Award in . . . sponsored by . . ." or shall be named for a person highly distinguished for work in the field recognized by the award. The proposed name shall be subject to approval by the Board of Directors of the Society or its designee.

e. The award shall include an appropriate cash prize and reasonable travel expenses. The amounts of money allocated to these items shall be reviewed periodically.

f. Financial support for each award shall be committed for five presentations at intervals of not less than one year, after which the sponsor and the ACS may consider extension of the arrangement under such award policies as are in force at that time.

g. The award sponsor shall provide annually an appropriate sum to cover expenses of administration.

h. Any individual may nominate candidates for ACS awards.

i. There shall be periodic review of such issues as the adequacy of award juries, the breadth of coverage of awards, and the adequacy and appropriateness of each individual award in order to assure the quality and integrity of the Awards Program.

5. Society segments, as defined in (2), may sponsor national awards. Such awards shall be treated in all ways identical to other National Awards except that the Award address may be under the supervision of the local section, region, or division where the award originated.

6. The Society shall make every effort to provide appropriate publicity for award winners and the awards programs of the Society and its local sections, divisions, and regional meeting groups.

Sponsor Index

Non-Annual Awards

ACS Awards are presented annually, with the exception of the following:

Award	*Canvass for Nominations**	*Next Presentation*	*Frequency*
Roger Adams Award	1991–92	1993	biennial
Alfred Burger Award	1990–91	1992	biennial
E. B. Hershberg Award	1991–92	1993	biennial
Ipatieff Prize	1990–91	1992	triennial
Frederic Stanley Kipping Award	1990–91	1992	biennial
Irving Langmuir Award	1990–91	1992	biennial
Charles Lathrop Parsons Award	1991–92	1993	bienniel

*October 1–February 1

American Chemical Society
1155 Sixteenth Street, NW
Washington, DC 20036

To Jan

- ☐ FOR YOUR INFORMATION
- ☐ FOR YOUR FILES
- ☐ FOR YOUR COMMENTS
- ☐ PLEASE HANDLE
- ☒ PLEASE TAKE UP WITH ME
- ☐ FOR YOUR APPROVAL
- ☐ PLEASE REPLY WITH A COPY TO THIS OFFICE
- ☐ PLEASE PREPARE AN ANSWER FOR
- MY SIGNATURE
- ☐ **PLEASE RETURN**
- ☐ FOR YOUR SIGNATURE

FROM Alfred | DATE 4/15

15102

American Chemical Society

AWARDS PROGRAM

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
Phone (202) 872-4408

April 5, 1991

Dr. Alfred Bader
Chairman
Aldrich Chemical Co., Inc.
940 West St. Paul Ave.
Milwaukee, WI 53233

Dear Dr. Bader:

With the presentation of the 1992 ACS Award for Creative Work in Synthetic Organic Chemistry the agreement between ACS and Aldrich Chemical Company, Inc., sponsor of the award, comes to an end. The ACS Board Committee on Grants and Awards, noting this fact, took the following action at its meeting in December 1990:

> VOTED to invite the sponsor of the ACS Award for Creative Work in Synthetic Organic Chemistry to renew sponsorship of the award for five presentations beginning in 1993 subject to ACS policies for the administration of awards.

The current terms of the ACS Award for Creative Work in Synthetic Organic Chemistry are as follows:

Stipend to recipient	$3,000
Administrative fee	4,070
Travel allowance	1,000
Commemorative Certificate	actual costs

While the Board has established $3,000 as the minimum stipend to the recipient, many sponsors have elected to increase the stipend to $5,000.

You may be curious about the nature of the administrative fee. The majority of the expense is for office personnel engaged in processing nominations, supporting canvassing and award committee activities, maintaining records, producing the annual Awards Ceremony and Dinner, and other essential functions. Other expenses include supplies, communications, and production of printed materials. As you know, each award has both a canvassing and an award committee. However, these groups transact business by mail so there are no committee travel expenses. Currently the total of administrative fees received from sponsors is somewhat less than the actual costs of administering the program, with the difference being made up from ACS funds.

The amount charged was arrived at as follows. By vote of the ACS Board of Directors, indexing of the administrative fee (then $3200) became effective for presentations beginning in 1986 under renewed agreements. The Board

adopted the policy of annual indexing in order to avoid sizable increases at the time of renewal of award agreements with sponsors. The small annual increase in the administrative fee is determined using the same Consumer Price Index ratio employed for calculating increases in ACS member dues. This has resulted in an increase of ca. 5% annually during the last five years. For award presentations made in 1992, the indexed fee is $4070, to be invoiced in the summer of 1991.

We sincerely hope that Aldrich Chemical Company will respond affirmatively to the Committee's invitation to renew sponsorship for another five years. We appreciate your support of the ACS Awards Program and hope the ACS Award for Creative Work in Synthetic Organic Chemistry merits your continued support.

A copy of Bulletin 7, "Awards Administred by ACS," is enclosed for your information, and also a copy of the program for the upcoming 1991 Awards Ceremony. Please call or write if you have any questions.

Sincerely,

John M. Malin, Ph.D.
Awards Administrator

JMM:epw

AWARDS

Dinner and General Meeting

Wednesday, June 8, 1988
Concert Hall
Royal York Hotel

THIRD CHEMICAL CONGRESS OF NORTH AMERICA

Toronto, Canada

Program

Welcoming Remarks

COLIN J. L. LOCK

Chairman, Organizing Committee
Third Chemical Congress of North America

Introduction of Awards of

Asociación Farmaceutica Mexicana
Instituto Mexicano del Ingenieros Químicos
Sociedad Química de Mexico

OTHON CANALES VALVERDE

President, Sociedad Química de Mexico

Presentation of Awards Administered by

Canadian Society for Chemical Technology

KAREN J. GEORGE, *President*

Canadian Society for Chemistry

KEITH U. INGOLD, *President*

American Chemical Society

GORDON L. NELSON, *President*

The Chemical Institute of Canada

HENRY I. BOLKER, *President*

Presentation of Priestley and Chemical Institute of Canada Medals

JOHN C. POLANYI

Honorary Chairman, Third Chemical Congress of North America

Recipients of Awards

Leopoldo Río de la Loza Award in Pharmaceutical Sciences
sponsored by the
Asociación Farmaceutica Mexicana

1985 *Ramon Ulacia*
1986 *Rafael Castillo*

Estaneslao Ramirez Award in Chemical Engineering Education
sponsored by the
Instituto Mexicano del Ingenieros Químicos

1985 *Alejandro Anaya Durand*
1986 *Jesus Avila-Galinzoga*
1987 *Adalberto Tirado*

Andres Manuel del Río Medal in Chemical Education
sponsored by the
Sociedad Química de Mexico

1985 *Raúl Cetina*
1986 *Jacobo Momer-Lara*

Andres Manuel del Río Medal in Chemical Research
sponsored by the
Sociedad Química de Mexico

1985 *Tirso Rios*
1986 *Pedro Joseph*

Andres Manuel del Río Medal in Industrial Achievement
sponsored by the
Sociedad Química de Mexico

1985 *Lars Christianson*
1986 *Luis Miramontes*

1988 Recipients

CANADIAN SOCIETY FOR CHEMICAL TECHNOLOGY

The Norman and Marion Bright Memorial Award

John A. Thompson — *Esso Petroleum Canada*

. . . for an outstanding contribution in Canada to the furtherance of chemical technology.

Karen J. George
President
Canadian Society for Chemical Technology

The Polysar Awards for Chemistry Teaching in Community and Technical Colleges

Penny LeCouteur — *Capilano College, North Vancouver*

Derwyn Smith — *Lambton College, Sarnia*

. . . for outstanding chemistry teaching in community and technical colleges.

Bruce J. Hutchinson
Director, Corporate Research and Development
Polysar Limited

CANADIAN SOCIETY FOR CHEMISTRY

The Alcan Lecture Award

Dennis G. Tuck — *University of Windsor*

. . . for his distinguished contribution in the field of inorganic chemistry.

David N. Mitchell
Program Director
Kingston Research and Development Centre
Alcan International Limited

Alfred Bader Award in Organic Chemistry

Stephen Hanessian — *Université de Montréal*

. . . as a mark of distinction and recognition for his excellence in research in organic chemistry.

Alfred Bader
Donor

The Dunlop Lecture Award for Macromolecular Science sponsored by Dunlop Research Centre

Adi Eisenberg — *McGill University*

. . . for his distinguished contribution to macromolecular science.

Duncan MacKillop
Consultant
Dunlop Construction Products, Inc.

The Fisher Scientific Lecture Award

Francis W. Karasek — *University of Waterloo*

. . for his distinguished contribution in the field of analytical chemistry.

Michael Aronson
Vice President, Sales, Western Region
Fisher Scientific Limited

The John Labatt Limited Award

Joshua Rokach — *Merck Frosst Inc.*

. . . in recognition of his outstanding achievement in the field of organic chemical research, with particular emphasis on biological systems.

Crossley Loughheed
Manager, Technical Services
John Labatt Limited

W. A. E. McBryde Medal

James W. McLaren — *National Research Council of Canada*

. . . as a mark of distinction and recognition for his significant achievement in analytical chemistry.

Frederick F. Cantwell
Chairman
Analytical Chemistry Division

The Merck Sharp & Dohme Lecture Award

James D. Wuest — *Université de Montréal*

. . . for his distinguished contribution in the field of organic chemistry.

Robert Young
Director of Medicinal Chemistry
Merck Frosst Canada Inc.

The Noranda Lecture Award

Peter Andrew Hackett — *National Research Council of Canada*

. . . for his distinguished contribution in the field of physical chemistry.

Craig S. Tedmon, Jr.
Senior Vice President, Technology
Noranda Inc.

The Syntex Award in Physical Organic Chemistry

Alexander J. Kresge — *University of Toronto*

. . . for his distinguished contribution to physical organic chemistry.

Allen Krantz
Director of Research
Syntex Incorporated

AMERICAN CHEMICAL SOCIETY

American Chemical Society Award*
in Pure Chemistry
sponsored by Alpha Chi Sigma Fraternity

Jacqueline K. Barton — *Columbia University*

. . . for her creative experimental investigations of metal complexes as site-specific probes of DNA conformations.

Maurice M. Bursey
Grand Master Alchemist
Alpha Chi Sigma Fraternity

Garvan Medal
sponsored by Olin Corporation

Marye Anne Fox — *University of Texas, Austin*

. . . for her very original and significant contributions to organic photochemistry and electrochemistry, in particular photocatalysis of organic reactions by wide-band semiconductors, chemically modified photoelectrodes, and the photochemistry of organic anions.

Irving Shain
Vice President and Chief Scientist
Olin Corporation

Claude S. Hudson Award in Carbohydrate Chemistry
sponsored by The Merck Sharp & Dohme Research Laboratories and Kelco, Divisions of Merck & Co.

Leslie Hough — *King's College (London)*

. . . for his substantial and lasting contributions to carbohydrate chemistry, including chromatography, monosaccharide, oligosaccharide, and polysaccharide structure and modification, periodate oxidation, biosynthesis, and mechanistic and conformational analysis.

Mitree M. Ponpipom
Merck Sharp & Dohme Research Laboratories

*Awards listed in order of date of establishment.

American Chemical Society Award in Analytical Chemistry sponsored by Fisher Scientific

Fred E. Lytle, Jr. — *Purdue University*

. . . in recognition of research accomplishments at the forefront of laser spectroscopy and the innovative application of time-resolved fluorimetry and two-photon excited fluoresence to analytical chemistry.

Donald Westall
Director of Marketing
Vendor Programs
Fisher Scientific

The Ernest Guenther Award in the Chemistry of Essential Oils and Related Products sponsored by Fritzsche Dodge & Olcott

Paul Wender — *Stanford University*

. . . for his brilliant conception that the photoaddition of olefins to arenes can be controlled to lead, almost at will, to a whole range of sesquiterpenes and other natural substances, thus achieving synthesis which are as imaginative as they are concise.

Robert G. Eilerman
Vice President, Research & Development
Fritzsche Dodge & Olcott

American Chemical Society Award in Petroleum Chemistry sponsored by The Amoco Foundation

Werner O. Haag — *Mobil Research & Development Corp.*

. . . for his creative fundamental studies of the nature of acidity and molecular shape-selectivity in zeolite catalysis, and for his penetrating insights into the mechanistic principles of complex catalytic petroleum and petrochemical reaction systems.

Ellis K. Fields
Research Consultant
Amoco Chemicals Company

American Chemical Society Award in Chemical Education sponsored by Union Carbide Corporation

Marjorie H. Gardner — *University of California, Berkeley*

. . . for her outstanding contributions to chemical education. Her leadership in research, curriculum development, and the education of teachers will be an everlasting source of inspiration to the teaching profession.

William P. Samuels
Manager, Corporate Technology
Union Carbide Corporation

American Chemical Society Award in Colloid or Surface Chemistry sponsored by The Kendall Company

Howard Brenner — *Massachusetts Institute of Technology*

. . . for his seminal theoretical contributions to colloids, physical chemical and interfacial hydrodynamics, especially his invention of a fundamental tensorial scheme for uniquely classifying the hydrodynamic, diffusive and rheological properties of Brownian particles.

W. Ross Yates
Section Head, Research & Development
The Kendall Company

American Chemical Society Award for Nuclear Chemistry sponsored by Amersham Corporation

Günter Herrmann — *Johannes Gutenberg University*

. . . in recognition of his pioneering work on the development of ingenious, rapid radiochemical separation methods and for imaginitive use of these techniques in fission studies, nuclear spectroscopy, and heavy-ion reactions.

Ronald J. Wilkins
President
Amersham Canada Limited

American Chemical Society Award for Creative Work in Synthetic Organic Chemistry sponsored by Aldrich Chemical Company, Inc.

Robert E. Ireland — *University of Virginia*

. . . for development of novel synthetic methodologies based on the Ireland-Claisen reaction and for masterful synthetic concepts and strategies which have led to new, or greatly improved, syntheses of complex natural products, including diterpenes, triterpenes and antibiotics, such as aphidicolin, tirandamycin, lasalocid A and nonensin.

Alfred Bader
Chairman
Aldrich Chemical Company, Inc.

James T. Grady-James H. Stack Award for Interpreting Chemistry for the Public

Arthur Fisher — Popular Science

. . . for his mastery of the art of communicating the most complex discoveries and developments in the sciences, especially in the chemical sciences, to vast numbers of nontechnical readers through leading magazines and popular books in words they readily understand and, equally important, in ways that interest them.

David C. Young
Chairman, Committee on Public Affairs
and Public Relations, ACS

E. V. Murphree Award in Industrial and Engineering Chemistry sponsored by Exxon Research and Engineering Company and Exxon Chemical Company

Jule A. Rabo — *Union Carbide Corporation*

. . . in recognition of his outstanding contributions over a span of more than three decades in the area of heterogeneous catalysis, particularly zeolitic catalysis of oil refinery and synthetic fuel industries' processes, and his leadership in furthering the development of catalytic science.

W. R. K. Innes
President
Esso Chemical Canada

American Chemical Society Award in Chromatography sponsored by SUPELCO, Inc.

Milton L. Lee — *Brigham Young University*

. . . for significant contributions in the development and application of capillary gas and supercritical fluid chromatography.

James D. Daley
Manager
SUPELCO Canada

American Chemical Society Award in Inorganic Chemistry sponsored by Monsanto Company

Mark S. Wrighton — *Massachusetts Institute of Technology*

. . . for uncovering fundamental principles in inorganic photochemistry and for extending inorganic chemistry into electronics and materials science through creative studies of functionalized electrodes, solid-state catalysts, and microelectrochemical devices.

T. L. Tolbert
Director, External Research & Development
Monsanto Company

The Peter Debye Award in Physical Chemistry sponsored by E. I. du Pont de Nemours & Company

Rudolph A. Marcus — *California Institute of Technology*

. . . for the development of insightful concepts, viewpoints, and relations which are central to the quantitative understanding of the rates of a broad variety of chemical reactions.

Richard K. Quisenberry
Research Director
Central Research & Development Department
E. I. du Pont de Nemours & Company

Frederic Stanley Kipping Award in Organosilicon Chemistry sponsored by Dow Corning Corporation

Raymond Calas — *University of Bordeaux*

. . . in recognition of his pioneering contributions to the synthesis of organosilicon compounds and their applications as useful reagents in organic synthesis.

H. Franklin Stewart
Director, Silicone Research
Dow Corning Corporation

American Chemical Society Award in Polymer Chemistry sponsored by Mobil Chemical Company

Pierre G. de Gennes — *Collège de France*

. . . for his contributions to polymer physics, particularly in the introduction of the scaling concept and the reptation model for the entangled polymer network, in the continuing research in polymer interfacial properties.

Wooyoung Lee
Manager, Edison Research Laboratory
Mobil Chemical Company

American Chemical Society Award for Distinguished Service in the Advancement of Inorganic Chemistry sponsored by Mallinckrodt, Inc.

M. Frederick Hawthorne — *University of California, Los Angeles*

. . . for numerous research accomplishments across a broad chemical spectrum, for distinguished teaching, and for outstanding leadership and service in the advancement of inorganic chemistry.

C. Philip Shank
Director of Technology
Mallinckrodt, Inc.

The James Flack Norris Award in Physical Organic Chemistry sponsored by the Northeastern Section, ACS

Nicholas J. Turro — *Columbia University*

. . . for his many fundamental contributions to the development of organic photochemistry, notably elucidation of the chemistry of carbonyl-containing compounds and the application of time-resolved laser spectroscopic methods to the characterization of short-lived intermediates.

Thomas R. Gilbert
Chairman
Northeastern Section, ACS

The Irving Langmuir Award in Chemical Physics sponsored by The General Electric Foundation

Richard B. Bernstein — *University of California, Los Angeles*

. . . for his fundamental contributions to chemical physics, especially in pioneering molecular beam scattering and laser-multiphoton ionization mass spectrometry, and in advancing the foundations of molecular reaction dynamics.

William F. Banholzer
Manager, CVD Projects Program
Corporate Research & Development
General Electric Company

The Henry H. Storch Award in Fuel Chemistry sponsored by Exxon Research and Engineering Company

Randall E. Winans — *Argonne National Laboratory*

. . . in recognition of his creative research on the origin and structure of coal and coal macerals leading to new views about the coalification process and the thermal and chemical reactivity of coal.

Martin L. Gorbaty
Scientific Coordinator
Resource Chemistry Laboratory
Corporate Research Laboratories
Exxon Research and Engineering Company

James Bryant Conant Award
in High School Chemistry Teaching
sponsored by Ethyl Corporation

Edmund J. Escudero — *Summit Country Day School, Cincinnati, Ohio*

. . . in recognition of exceptional success as a teacher of high school chemistry, unique ability to stimulate young minds, and outstanding contributions to the advancement of science education.

Kenneth H. Schmit
Manager, Advertising and Sales Promotion
Chemicals Group
Ethyl Corporation

American Chemical Society Award
for Creative Invention
sponsored by The Corporation Associates

Samuel Smith — *3M Company*

. . . for his inventive and creative studies of polymerization, adhesives and soil releasing materials.

John R. Norell
Chairman
Committee on Corporation Associates, ACS

American Chemical Society Award
in Applied Polymer Science
sponsored by Phillips Petroleum Company

David S. Breslow — *Hercules, Inc. (Retired)*

. . . in recognition of his pioneering research in biologically active synthetic polymers and polymerization by olefin metathesis that has laid the groundwork for others in polymer chemistry.

D. G. Brady
Manager, Polymers and Materials Division
Phillips Petroleum Company

Arthur C. Cope Award

Kenneth B. Wiberg — *Yale University*

. . . for his pioneering contributions to our understanding of how chemical reactions occur, especially his unique application of synthesis, spectroscopy and quantum computational methods to the central problem of strain in organic chemistry.

This award will be presented during the 196th ACS National Meeting, Los Angeles, California, September 25–30, 1988.

American Chemical Society Award for Creative Advances in Environmental Science and Technology sponsored by Air Products and Chemicals, Inc.

A. Welford Castleman, Jr. — *Pennsylvania State University*

. . . for his pioneering studies of the formation, properties and reactions of clusters which have provided new insight into the mechanisms of aerosol formation and related heterogeneous reactions of atmospheric importance.

James F. Roth
Corporate Chief Scientist
Air Products and Chemicals, Inc.

Alfred Burger Award in Medicinal Chemistry sponsored by SmithKline Beckman Corporation

Roland K. Robins — *Nucleic Acid Research Institute*

. . . in recognition of his outstanding and unusual achievements in medicinal chemistry which were accomplished in both an academic and industrial setting, especially his contributions to the design and development of nucleosides and other structurally related compounds as clinically useful antiviral and anticancer agents.

John G. Gleason
Director, Department of Medicinal Chemistry
Smith, Kline & French Laboratories

Nobel Laureate Signature Award for Graduate Education in Chemistry sponsored by J. T. Baker, Inc.

David L. Clark — *Los Alamos National Laboratory*

. . . for his creative syntheses, elegant spectroscopic and theoretical studies, of the coupling of metal-metal triple bonds in the chemistry of molybdenum and tungsten alkoxides.

This award recognizes research performed as a graduate student at Indiana University under the direction of

Malcolm H. Chisholm

Paul A. Bouis
Assistant Director
Analytical Research
J. T. Baker, Inc.

American Chemical Society Award in the Chemistry of Contemporary Technological Problems sponsored by Mobay Corporation

John O'M. Bockris — *Texas A&M University*

. . . in recognition of his numerous contributions to the science and technology of electrochemistry, as well as his visionary work on alternatives to the present fossil fuel system.

Walter H. Grimes
Divisional Vice President
Research and Development
Mobay Corporation

Joel Henry Hildebrand Award in the Theoretical and Experimental Chemistry of Liquids

Hans C. Andersen — *Stanford University*

. . . for his perturbation theories of simple liquids, for theories of liquid transport properties, for molecular dynamics studies of water and amorphous materials, and for theories of condensed phase spectroscopic phenomena.

Gordon L. Nelson
President, ACS

Earle B. Barnes Award
for Leadership in Chemical Research Management
sponsored by The Dow Chemical Company

William P. Slichter — *AT&T Bell Laboratories (Retired)*

. . . in recognition of his extraordinary contributions as research manager for chemistry and materials science at AT&T Bell Laboratories, for broad guidance and vigorous support of new materials development there and elsewhere, and for important service as advisor and member of national commissions, institutes, and scientific societies.

David T. Buzzelli
President and Chief Executive Officer
Dow Chemical Canada Inc.

American Chemical Society Award
in Separations Science and Technology
sponsored by Rohm and Haas Company

Norman N. Li — *Allied-Signal Inc.*

. . . for his invention and innovation of liquid membranes as a novel separation technique.

William Staas
Venture Manager, Bioprocessing
Rohm and Haas Company

Frank H. Field and Joe L. Franklin Award
for Outstanding Achievement in Mass Spectrometry
sponsored by Extrel Corporation

Frank H. Field — *Rockefeller University*

. . . for his seminal contributions across diverse areas of mass spectrometry, including electron impact phenomena, gaseous ion energetics, chemical ionization, ion-molecule reactions, and analytical applications from petroleum chemistry to biomedicine.

Wade L. Fite
Chairman
Extrel Corporation

American Chemical Society Award in Organometallic Chemistry sponsored by Dow Chemical Company Foundation

Robert H. Grubbs — *California Institute of Technology*

. . . in recognition of his pioneering contributions to organometallic reaction mechanisms relevant to catalysis, especially olefin metathesis and polymerizations.

Philip E. Garrou
Central Research, Technology Development
Dow Chemical Company

American Chemical Society Award for Computers in Chemistry sponsored by Digital Equipment Corporation

William A. Goddard III — *California Institute of Technology*

. . . for development of computational methods which utilize computer architectures with high efficiency, thus enabling calculations by quantum and molecular mechanics which have led to far greater understanding of practical chemical processes and helped to bring theory much more into the mainstream of modern chemistry.

Mark R. Schure
Principal Engineer
Digital Equipment Corporation

American Chemical Society Award for Research at Undergraduate Institutions sponsored by Research Corporation

Michael P. Doyle — *Trinity University*

. . . for his outstanding research accomplishments, for his profound influence on the lives of students and colleagues, and for his personal dedication and involvement which have produced nationwide recognition and support for undergraduate research.

Brian Andreen
Grants Program Coordinator
Research Corporation

Alfred Bader Award
in Bioinorganic or Bioorganic Chemistry

Thomas C. Bruice — *University of California, Santa Barbara*

. . . for his outstanding intellectual and experimental contributions to bioorganic chemistry that provided brilliant insights through model studies into the fascinating reaction mechanisms of vitamins and enzymes.

———

Alfred Bader
Donor

THE CHEMICAL INSTITUTE OF CANADA

Montreal Medal

Jean-Claude Richer — *Université de Montréal*

. . . for his leadership in and contribution to the profession of chemistry.

———

J. G. Atkinson
Councilor
Montreal Region

The Union Carbide Award for Chemical Education

Leo Yaffe — *McGill University*

. . . for his outstanding contributions to education in the field of chemistry.

———

W. N. Kissick
Chairman and Chief Executive Officer
Union Carbide Canada Limited

Catalysis Award

John B. Moffatt — *University of Waterloo*

. . . for his distinguished contribution in the field of catalysis.

J. Kriz
Chairman
Catalysis Division

The Domtar Awards for High School Chemistry Teachers

L. S. Nikkel — *Glenlawn Collegiate, Winnipeg*

C. R. Tompkins — *Queen Elizabeth Composite High School, Edmonton*

. . . for their outstanding contributions to high school chemistry teaching.

M. M. Avedesian
Manager
Research and Technology Development
Domtar Inc.

Premier Presentations

PRIESTLEY MEDAL

Frank H. Westheimer — *Harvard University*

. . . for distinguished services to chemistry.

Gordon L. Nelson
President
American Chemical Society

THE CHEMICAL INSTITUTE OF CANADA MEDAL
SPONSORED BY INCO LIMITED

Stephen Hanessian — *Université de Montréal*

. . . for his outstanding contribution to the science of chemistry.

Malcolm C. Bell
Vice President, Technology
Inco Limited

PRINTED IN U.S.A.

1991
AWARDS PROGRAM

Dinner and General Meeting

Tuesday, April 16, 1991
Grand Ballroom
Atlanta Hilton Hotel

201st National Meeting
AMERICAN CHEMICAL SOCIETY

Atlanta, Georgia

Program

Presiding

S. ALLEN HEININGER
President, American Chemical Society

Welcoming Remarks

G. DAVON KENNEDY
Chairman, Georgia Section, ACS

Priestley Medal Address

"The Joy of Research and Teaching"

HARRY GRAY
California Institute of Technology

Presentation of

Awards Administered by the American Chemical Society

1991
Recipients of ACS Awards*

PRIESTLEY MEDAL

Harry Gray — *California Institute of Technology*

. . . for distinguished services to chemistry.

S. Allen Heininger
President, ACS

* * *

AMERICAN CHEMICAL SOCIETY AWARD
IN PURE CHEMISTRY
SPONSORED BY ALPHA CHI SIGMA FRATERNITY

Nathan S. Lewis — *California Institute of Technology*

. . . for imaginative and thorough investigations that have led to a deeper understanding of photochemical and electrochemical reactions at semiconductor-liquid interfaces.

Paul R. Jones
Grand Master Alchemist
Alpha Chi Sigma Fraternity

*Awards listed in order of date of establishment.

GARVAN MEDAL
SPONSORED BY OLIN CORPORATION

Cynthia M. Friend — *Harvard University*

. . . in recognition of her studies of the mechanisms of reactions of organic intermediates present on the surfaces of catalysts.

Irving Shain
Vice President and Chief Scientist
Olin Corporation

* * *

CLAUDE S. HUDSON AWARD IN CARBOHYDRATE CHEMISTRY
SPONSORED BY THE MERCK SHARP & DOHME
RESEARCH LABORATORIES

Per J. Garegg — *Stockholm University*

. . . for pioneering new pathways to molecules that find and fight disease, and for simplifying the synthesis of complex carbohydrates.

Mitree M. Ponpipom
Senior Investigator
Merck Sharp & Dohme Research Laboratories

American Chemical Society Award in Analytical Chemistry sponsored by Fisher Scientific Company

Royce W. Murray — *University of North Carolina, Chapel Hill*

. . . for his prolific and highly imaginative pioneering work and virtuosity in developing the chemically modified electrode through the synthesis, electrochemistry, and analytical concepts of molecular films on electrode surfaces.

David A. Krost
Manager, Chemical Products
Fisher Scientific Company

* * *

The Ernest Guenther Award in the Chemistry of Essential Oils and Related Products sponsored by Fritzsche Dodge & Olcott

C. Dale Poulter — *University of Utah*

. . . for his important contributions to our understanding of isoprenoid biosynthesis.

Philip A. Christenson
Director of Research
Fritzsche Dodge & Olcott

American Chemical Society Award in Petroleum Chemistry sponsored by The Amoco Foundation

David M. Grant — *University of Utah*

. . . for pioneering work in carbon-13 and solid state nuclear magnetic resonance spectroscopy, and for the imaginative application of nuclear magnetic resonance techniques to a host of chemical problems from coal structure to molecular motion.

Ellis K. Fields
Research Consultant
Amoco Chemicals Company

* * *

George C. Pimentel Award in Chemical Education sponsored by Union Carbide Corporation

John W. Moore — *University of Wisconsin, Madison*

. . . for his fundamental contributions to the advancement of chemical education. He has improved the teaching of chemistry at every educational level through innovative training methods for high school teachers, undergraduates, and graduate students and has provided guidance in the development of criteria that define outstanding educational computer technology.

William P. Samuels
Manager, Corporate Technology
Union Carbide Corporation

American Chemical Society Award
in Colloid or Surface Chemistry
sponsored by The Kendall Company

W. Henry Weinberg — *University of California, Santa Barbara*

. . . for creative and diverse investigations of the structure, energetics, kinetics, and dynamical behavior of surface species of importance to understanding fundamental aspects of surface chemistry.

Robert Hanninen
Manager, Research Associate
The Kendall Company

* * *

Charles Lathrop Parsons Award

Mary L. Good — *Allied-Signal, Inc.*

. . . in recognition of of outstanding public service by a member of the American Chemical Society.

This award was presented at the ACS Presidential Plenary Session, April 14, 1991.

American Chemical Society Award for Nuclear Chemistry

John M. Alexander — *State University of New York, Stony Brook*

. . . in recognition of his contributions in fundamental and applied nuclear chemistry, particularly the application of this discipline to understanding the production and deexcitation of nuclei at high levels of excitation energy and angular momentum.

Joseph A. Dixon
Chairman, Board of Directors, ACS

* * *

American Chemical Society Award for Creative Work in Synthetic Organic Chemistry sponsored by Aldrich Chemical Company, Inc.

Paul A. Grieco — *Indiana University*

. . . for his pioneering studies in the stereospecific total synthesis of complex, highly oxygenated natural products. His recent seminal discoveries on solvent and other media effects on organic reactions have had a major impact in contemporary synthesis.

Stephen J. Branca
Director, New Products
Aldrich Chemical Company, Inc.

James T. Grady-James H. Stack Award
for Interpreting Chemistry for the Public

Betty Debnam — *Universal Press Syndicate*

. . . for stimulating and enlightening young minds on the subject of chemistry through her nationally syndicated feature, "The Mini Page." Her tireless research, coupled with a commitment to helping children learn in a way that's fun has helped to instill the joy of discovery in young readers.

C. Marvin Lang
Chairman, Committee on Public Affairs
and Public Relations, ACS

* * *

E. V. Murphree Award
in Industrial and Engineering Chemistry
sponsored by Exxon Research and Engineering Company
and Exxon Chemical Company

Richard C. Alkire — *University of Illinois, Urbana-Champaign*

. . . for combining chemical engineering methods with electrochemical science to address applications of significant technological importance in electrochemical processing, surface modification, and corrosion.

Louis E. Furlong
Manager, Planning and Administration
Exxon Research and Engineering Company

American Chemical Society Award in Chromatography sponsored by SUPELCO, Inc.

Hamish Small — *Dow Chemical Company (Retired)*

. . . for his life-long contributions to the field of chromatography, especially his inventions of ion chromatography and hydrodynamic chromatography. His developments in these and related areas have significantly impacted the modern practice of chromatography.

Sabah S. Dabby
Vice President
Research and Development
SUPELCO, Inc.
Division of Rohm and Haas Company

* * *

Roger Adams Award in Organic Chemistry sponsored by Organic Reactions, Inc. and Organic Syntheses, Inc.

Gilbert Stork — *Columbia University*

. . . for fundamental contributions to the methodology of organic synthesis and for elegance in the stereoselective synthesis of natural products.

This award will be presented during the 32nd National Organic Chemistry Symposium, Minneapolis, Minnesota, June 16-20, 1991.

American Chemical Society Award in Inorganic Chemistry sponsored by Monsanto Company

R. Bruce King — *University of Georgia*

. . . for imaginative research in both synthetic and mathematical chemistry, which has greatly enhanced our fundamental knowledge of the synthesis, properties, reactivity, and structure of diverse types of inorganic substances.

Barry Haymore
Monsanto Fellow
Monsanto Company

* * *

The Peter Debye Award in Physical Chemistry sponsored by E. I. du Pont de Nemours & Company

Richard N. Zare — *Stanford University*

. . . for his insightful applications of laser-induced fluorescence for the study of molecular structure and chemical reactions.

Richard K. Quisenberry
Vice President, Research
E. I. du Pont de Nemours & Company

AMERICAN CHEMICAL SOCIETY AWARD
IN POLYMER CHEMISTRY
SPONSORED BY MOBIL CHEMICAL COMPANY

Marshall Fixman — *Colorado State University*

. . . for his elegant theoretical contributions to many areas of polymer physical chemistry, including chain confirmation, light scattering, solution and melt dynamics, and polyelectrolytes.

Wooyoung Lee
Manager, Edison Research Laboratory
Mobil Chemical Company

* * *

AMERICAN CHEMICAL SOCIETY AWARD
FOR DISTINGUISHED SERVICE
IN THE ADVANCEMENT OF INORGANIC CHEMISTRY
SPONSORED BY MALLINCKRODT, INC.

James P. Collman — *Stanford University*

. . . for his studies of the reactivity of coordination complexes, particularly the metalloporphyrins, which have established a new standard of excellence in synthesis directed to defined function, and have profound implications for catalysis.

C. Philip Shank
Director of Research and Development
Mallinckrodt Specialty Chemicals Company

THE JAMES FLACK NORRIS AWARD
IN PHYSICAL ORGANIC CHEMISTRY
SPONSORED BY THE NORTHEASTERN SECTION, ACS

Kendall N. Houk — *University of California, Los Angeles*

. . . for his creative studies in theoretical organic chemistry. He has discovered and explained principles that govern reactivity and selectivity of organic reactions.

———

Katie Stygall
Chairman-Elect
Northeastern Section, ACS

* * *

THE HENRY H. STORCH AWARD
IN FUEL CHEMISTRY
SPONSORED BY EXXON RESEARCH AND ENGINEERING COMPANY

Peter R. Solomon — *Advanced Fuel Research, Inc.*

. . . in recognition of his many contributions in developing new experimental methods for the study of coal, the application of these methods in creating a quantitative understanding of coal conversion chemistry and his outstanding professional service to the fuel science community.

———

Stephen C. Mraw
Section Head
Fuels and Hydrocarbon Chemistry
Exxon Research and Engineering Company

JAMES BRYANT CONANT AWARD
IN HIGH SCHOOL CHEMISTRY TEACHING
SPONSORED BY ETHYL CORPORATION

Mary E. Key — *St. Albans School*
Washington, D.C.

. . . in recognition of exceptional success as a teacher of high school chemistry, unique ability to stimulate young minds, and outstanding contributions to the advancement of science education.

John C. Wollensak
Director, Chemical Research and Development
Ethyl Corporation

* * *

AMERICAN CHEMICAL SOCIETY AWARD
FOR CREATIVE INVENTION
SPONSORED BY THE CORPORATION ASSOCIATES

Frederick J. Karol — *Union Carbide Corporation*

. . . for his technical leadership in the invention of a series of olefin polymerization catalysts for the highly successful UNIPOL™ polyethylene process.

Charles S. Sodano
Chairman
Committee on Corporation Associates, ACS

American Chemical Society Award
in Applied Polymer Science
sponsored by Phillips Petroleum Company

E. J. Vandenberg — *Arizona State University*

. . . for his innovative research on new catalysts for polymer synthesis. He has contributed to applied polymer science by facilitating the discovery and development of plastics, fibers, films and elastomers.

D. G. Brady
Manager, Polymers and Materials
Phillips Petroleum Company

* * *

American Chemical Society Award
for Creative Work in Fluorine Chemistry
sponsored by PCR Inc.

Richard D. Chambers — *University of Durham*

. . . for outstanding contributions to organofluorine chemistry including synthesis of new perfluorinated nitrogen heteroaromatic compounds, development of "mirror image" fluoride ion displacement chemistry, and theoretical elucidation of the effect of fluorine on cycloaddition reactions.

This award was presented during the 10th Winter Fluorine Conference, St. Petersburg, Florida, January 28—February 2, 1991.

Arthur C. Cope Award

Gerhard Closs — *University of Chicago*

. . . for his many fundamental and pioneering contributions to physical organic chemistry.

This award will be presented during the 202nd ACS National Meeting, New York City, August 25—30, 1991.

* * *

American Chemical Society Award for Creative Advances in Environmental Science and Technology sponsored by Air Products and Chemicals, Inc.

Ronald A. Hites — *Indiana University*

. . . for the application of organic analytical chemistry, particularly gas chromatographic mass spectrometry, to the understanding of the environmental behavior of trace levels of potentially toxic pollutants.

Thomas Manuel
General Manager
Corporate Science and Technology Center
Air Products and Chemicals, Inc.

NOBEL LAUREATE SIGNATURE AWARD
FOR GRADUATE EDUCATION IN CHEMISTRY
SPONSORED BY J. T. BAKER INC.

Susan T. Graul — *University of California, Santa Barbara*

. . . for developing collision-induced dissociation as a method for generating and characterizing rare and unusual carbanions in the gas phase, and for novel investigations of the structures and reactivity of protonated molecular clusters.

This award recognizes research performed as a graduate student at Purdue University under the direction of

Robert R. Squires

Laura J. Crane
Director, Laboratory Products
J. T. Baker Inc.

* * *

JOEL HENRY HILDEBRAND AWARD IN THE
THEORETICAL AND EXPERIMENTAL CHEMISTRY OF LIQUIDS
SPONSORED BY E. I. DU PONT DE NEMOURS & COMPANY

Howard Reiss — *University of California, Los Angeles*

. . . for developing the scaled particle theory of liquids, for extending and testing the classical theory of nucleation, and for many novel insights into the structure and phase behavior of simple fluids, microemulsions, and polymers.

Richard K. Quisenberry
Vice President, Research
E. I. du Pont de Nemours & Company

Earle B. Barnes Award
for Leadership in Chemical Research Management
sponsored by The Dow Chemical Company

Lester C. Krogh — *3M (Retired)*

. . . in recognition of distinguished contributions to 3M as manifested by his championship of research and development, his leadership of chemical businesses, his creation of effective technical assessments, and his unwavering commitment to innovation.

Duane S. Lehman
Director, Technical Recruiting
and Resource Planning
The Dow Chemical Company

* * *

American Chemical Society Award
in Separations Science and Technology
sponsored by Rohm and Haas Company

Georges Guiochon — *University of Tennessee*

. . . for his seminal contributions to the theory and practice of analytical and preparative chromatography.

Harry J. White
Director, University Relations
Rohm and Haas Company

Frank H. Field and Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry sponsored by Extrel Corporation

R. Graham Cooks — *Purdue University*

. . . for his outstanding record of creative research in the field of mass spectrometry; for pioneering the development of new techniques and novel applications for tandem mass spectrometry, ion trapping technology and surface-induced dissociation methods.

Joseph Campana
President, Extrel FTMS
Extrel Corporation

* * *

American Chemical Society Award in Organometallic Chemistry sponsored by Dow Chemical Company Foundation

Charles P. Casey — *University of Wisconsin, Madison*

. . . for his outstanding research on synthesis, structural characterization, and mechanistic studies of reactions of transition metal organometallic compounds, notably including complexes with carbene ligands and bimetallic species.

Hendrik E. Tuinstra
Research Associate
Dow Chemical USA

AMERICAN CHEMICAL SOCIETY AWARD
FOR COMPUTERS IN CHEMISTRY
SPONSORED BY DIGITAL EQUIPMENT CORPORATION

John A. Pople — *Carnegie Mellon University*

. . . for his pioneering research in molecular electronic structure theory, his early and effective use of minicomputers in theoretical chemistry, his development of standard software for molecular orbital computations and his effective leadership in making electronic structure study an effective research tool for the practicing chemist.

Frederick F. Giarrusso
Manager, Business Development in R&D
Digital Equipment Corporation

* * *

AMERICAN CHEMICAL SOCIETY AWARD
FOR RESEARCH AT AN UNDERGRADUATE INSTITUTION
SPONSORED BY RESEARCH CORPORATION

Philip C. Myhre — *Harvey Mudd College*

. . . for his fundamental research on the structure and reactivity of carbocationic reaction intermediates, distinctive for its ingenuity and breadth, and for his tireless devotion to the education of undergraduate students through chemical research.

Brian Andreen
Director, Science Advancement Programs
Research Corporation

Alfred Bader Award
in Bioinorganic or Bioorganic Chemistry

Robert H. Abeles — *Brandeis University*

. . . for his dedication and enthusiasm in advancing biochemical research, and his fundamental contributions toward clarifying the mechanisms of enzyme catalysis, including the development of transition state analogues and suicide inhibitors that provide the basis of rational drug therapy.

Stephen J. Branca
on behalf of Alfred Bader, Donor

* * *

American Chemical Society Award
in the Chemistry of Materials
sponsored by
E. I. du Pont de Nemours & Company

C. Grant Willson — *IBM Almaden Research Center*

. . . for key contributions to the development and understanding of new chemistries for photoresist materials of importance to the microelectronics industry.

James E. Nottke
Director, Polymer Science
E. I. du Pont de Nemours & Company

Ralph F. Hirschmann Award
in Peptide Chemistry
sponsored by The Merck Sharp & Dohme Research Laboratories

Elkan R. Blout — *Harvard School of Public Health*

. . . for his pioneering contributions in the use of biophysical techniques, such as infra-red, circular dichroism and nuclear magnetic resonance spectroscopy to analyze polypetide conformations; his studies of cyclic peptides and gramicidin A to establish correlations of structure with basic features of peptide and protein function; and his flair for coupling research with science policy and administration on a national and international scale.

Paul S. Anderson
Vice President for Chemistry, West Point
Merck Sharp & Dohme Research Laboratories

* * *

E. B. Hershberg Award
for Important Discoveries in Medicinally Active Substances
sponsored by Schering-Plough Corporation

George deStevens — *Drew University*

. . . for significant achievements in medicinal chemistry, particularly for the synthesis of hydrochlorothiazide, which became and remains primary therapy for hypertension; for his leadership in medicinal chemistry, as a research director and professor of chemistry, by which he hepled and inspired others to contribute to therapeutic advances.

F. J. Bullock
Senior Vice President, Research Operations
Schering-Plough Corporation

AMERICAN CHEMICAL SOCIETY AWARD
IN INDUSTRIAL CHEMISTRY
SPONSORED BY AKZO CHEMICALS, INC.

James F. Roth *Air Products and Chemicals, Inc. (Retired)*

. . . for his record of technical accomplishments and leadership in catalysis, applied chemistry, and chemical process development that are exemplified by his discovery and development of two large-scale processes: acetic acid via the carbonylation of methanol and the de-hydrogenation of paraffins to linear olefins.

This award will be presented during the 202nd ACS National Meeting, New York City, August 25–30, 1991.

ACS 1992 National Award Winners

Following are the 1992 recipients of awards administered by ACS. Vignettes of the award winners will appear in successive issues of C&EN, beginning this fall. A vignette of 1992 Priestley Medalist Carl Djerassi appeared in the June 3 issue of C&EN, page 28.

ACS Award for Computers in Chemistry sponsored by Digital Equipment Corp., **Ernest R. Davidson,** Indiana University

ACS Award for Creative Advances in Environmental Science & Technology sponsored by Air Products & Chemicals Inc., **Glen E. Gordon,** University of Maryland

ACS Award for Creative Invention sponsored by Corporation Associates, **David W. Cushman and Miguel A. Ondetti,** Bristol-Myers Squibb Pharmaceutical Research Institute

ACS Award for Creative Work in Fluorine Chemistry sponsored by PCR Inc., **Neil Bartlett,** University of California, Berkeley

ACS Award for Creative Work in Synthetic Organic Chemistry sponsored by Aldrich Chemical Co., **Dieter Seebach,** Swiss Federal Institute of Technology

ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry sponsored by Mallinckrodt Inc., **James A. Ibers,** Northwestern University

ACS Award for Nuclear Chemistry, **Robert N. Clayton,** University of Chicago

ACS Award for Research at an Undergraduate Institution sponsored by Research Corp., **Mitsuru Kubota,** Harvey Mudd College

ACS Award in Analytical Chemistry sponsored by Fisher Scientific Co., **Larry R. Faulkner,** University of Illinois, Urbana

ACS Award in Applied Polymer Science sponsored by Phillips Petroleum Co., **Robert S. Langer,** Massachusetts Institute of Technology

ACS Award in Chromatography sponsored by SUPELCO Inc., **Josef F. K. Huber,** University of Vienna

ACS Award in Colloid or Surface Chemistry sponsored by Kendall Co., **David G. Whitten,** University of Rochester

ACS Award in Industrial Chemistry sponsored by Akzo Chemicals Inc., **David R. Bryant,** Union Carbide Corp.

ACS Award in Inorganic Chemistry sponsored by Monsanto Co., **Walter G. Klemperer,** University of Illinois, Urbana

ACS Award in Organometallic Chemistry sponsored by Dow Chemical Co. Foundation, **Maurice S. Brookhart,** University of North Carolina, Chapel Hill

ACS Award in Petroleum Chemistry sponsored by Amoco Foundation, **Wolfgang M. H. Sachtler,** Northwestern University

ACS Award in Polymer Chemistry sponsored by Mobil Chemical Co., **Robert W. Lenz,** University of Massachusetts

ACS Award in Pure Chemistry sponsored by Alpha Chi Sigma Fraternity, **Charles M. Lieber,** Harvard University

ACS Award in Separations Science & Technology sponsored by Rohm & Haas Co., **Milos V. Novotny,** Indiana University

ACS Award in the Chemistry of Materials sponsored by Du Pont Co., **Harry R. Allcock,** Pennsylvania State University

Alfred Bader Award in Bioinorganic or Bioorganic Chemistry, **Richard H. Holm,** Harvard University

Earle B. Barnes Award for Leadership in Chemical Research Management sponsored by Dow Chemical Co., **D. W. McCall,** AT&T Bell Labs

Alfred Burger Award in Medicinal Chemistry sponsored by SmithKline Beecham, **Everette L. May,** Virginia Commonwealth University

James Bryant Conant Award in High School Chemistry Teaching sponsored by Ethyl Corp., **Lois Fruen,** Breck School, Minneapolis

Arthur C. Cope Award, **K. Barry Sharpless,** Scripps Research Institute

Arthur C. Cope Scholar Awards:
Jerome A. Berson, Yale University
Francois N. Diederich, University of California, Los Angeles
Joseph Dinnocenzo, University of Rochester
Dennis A. Dougherty, California Institute of Technology
Donald Hilvert, Scripps Research Institute
Paul B. Hopkins, University of Washington
Keith U. Ingold, National Research Council of Canada
Richard A. Lerner, Scripps Research Institute
Philip D. Magnus, University of Texas, Austin
S. Ian Scott, Texas A&M University

Peter Debye Award in Physical Chemistry sponsored by Du Pont Co., **F. H. Stillinger,** AT&T Bell Labs

Frank H. Field and Joe L. Franklin Award for Outstanding Achievement in Mass Spectrometry sponsored by Extrel Corp., **Burnaby Munson,** University of Delaware

Garvan Medal sponsored by Olin Corp., **Jacqueline K. Barton,** California Institute of Technology

James T. Grady-James H. Stack Award for Interpreting Chemistry for the Public, **Malcolm W. Browne,** *New York Times*

Ernest Guenther Award in the Chemistry of Essential Oils & Related Products sponsored by Givaudan-Roure, **Leo A. Paquette,** Ohio State University

Joel Henry Hildebrand Award in the Theoretical & Experimental Chemistry of Liquids sponsored by Du Pont Co., **Benjamin Widom,** Cornell University

Ralph F. Hirschmann Award in Peptide Chemistry sponsored by Merck Sharp & Dohme Research Laboratories, **Louis A. Carpino,** University of Massachusetts

Claude S. Hudson Award in Carbohydrate Chemistry sponsored by Merck Sharp & Dohme Research Laboratories, **Akira Kobata,** University of Tokyo

Ipatieff Prize, **Mark E. Davis,** California Institute of Technology

Frederic Stanley Kipping Award in Organosilicon Chemistry sponsored by Dow Corning Corp., **Nils Wiberg,** University of Munich

Irving Langmuir Award in Chemical Physics sponsored by General Electric Foundation, **John Ross,** Stanford University

E. V. Murphree Award in Industrial & Engineering Chemistry sponsored by Exxon Research & Engineering Co. and Exxon Chemical Co., **Clarence D. Chang,** Mobil Research & Development Corp.

Nobel Laureate Signature Award for Graduate Education in Chemistry sponsored by J. T. Baker Inc., **Marcos Dantus** (student), California Institute of Technology; **Ahmed Zewail** (preceptor), California Institute of Technology

James Flack Norris Award in Physical Organic Chemistry sponsored by the ACS Northeastern Section, **Joseph F. Bunnett,** University of California, Santa Cruz

George C. Pimentel Award in Chemical Education sponsored by Union Carbide Corp., **Fred Basolo,** Northwestern University

Priestley Medal, **Carl Djerassi,** Stanford University

Henry H. Storch Award in Fuel Chemistry sponsored by Exxon Research & Engineering Co., **Stephen E. Stein,** National Institute of Standards & Technology

ACS 1989 Award Winners

Following are vignettes of the fourth group of recipients of awards administered by ACS. They will receive their awards during the April 1989 197th ACS national meeting in Dallas, with the exception of the Cope Medalist and the Cope Scholars, who will receive their awards at the 198th ACS national meeting in Miami Beach during the Cope Symposium. The awards in Dallas will be presented at a banquet on Monday, April 10, 1989.

Vignettes of the remaining awardees will appear in the Dec. 5 issue of C&EN.

Earle B. Barnes Award For Leadership in Chemical Research Management

sponsored by Dow Chemical Co.

According to one of **GEORGE W. PARSHALL**'s colleagues, a leader must be able to combine, and balance, the characteristics of the visionary and of the pragmatist. Parshall's 34-year career at Du Pont shows that he has handled the balance well and fruitfully. In addition to pursuing his own research activities, he has successfully led his research groups to key scientific achievements, encouraged promising young scientists, and contributed to the profession.

After graduating from the University of Minnesota in 1951, Parshall undertook graduate work at the University of Illinois on vinylogs of carboxylate ions. Upon receiving a Ph.D. in 1954, he joined Du Pont. After 11 years as a research chemist, he was appointed research supervisor in 1965. In 1979, he was named director of chemical science and is currently responsible for Du Pont's basic chemicals research.

Parshall's research interests and successes range from synthetic methods development to spectroscopy to biochemistry to homogeneous catalysis. The themes of organometallic chemistry and carbon-hydrogen bond activation run throughout. The publication of 66 research papers, 19 review articles, and two books, as well as 18 U.S. patents, attests to his productivity and success.

Among the key scientific achievements of Parshall's research group is the work on activation of carbon-hydrogen bonds, a key step in catalysis of hydrocarbon reactions. A major development in opening this field of research was observation of catalytic C-H exchange reactions of benzene. The climax of these studies came when a member of his research group reported activation of methane, the most recalcitrant hydrocarbon. Another key scientific achievement was the synthesis of a methylene complex of tantalum, which was a landmark in organotransition metal chemistry and a major step in defining the mechanism of the olefin metathesis reaction. The subsequent synthesis of a highly reactive titanium methylene complex demonstrated that mechanism. The titanium complex has found wide use in organic synthesis and has become known in the literature as the Tebbe reagent.

Parshall serves on the editorial boards of *Accounts of Chemical Research* and *Chemistry of Materials*. In 1977-80 he was editor of the *Journal of Molecular Catalysis*. He received the 1983 ACS Award in Inorganic Chemistry and is a member of the National Academy of Sciences.

Ernest Guenther Award in the Chemistry of Essential Oils & Related Products

sponsored by Fritzsche Dodge & Olcott Inc.

HENRY RAPOPORT, professor of chemistry, University of California, Berkeley, described by a colleague as "one of the foremost natural products chemists of the 20th century," will receive the award in recognition of contributions that include the development of novel synthetic methodology, the total synthesis of a number of medicinally important natural products, the elucidation of reaction mechanisms, and innovative investigations of biosynthetic pathways for important natural products.

His biosynthetic work on opium alkaloids represented the first use of the kinetics of carbon dioxide incorporation to solve a secondary metabolite biosynthesis problem. Other alkaloid work has included the conversion of morphine to oripavine, the patented interconversion of codeine and thebaine, and the isolation of new natural opiates.

Rapoport's 1962 synthesis of prodigiosin, a red pigment, is still considered the best available method, despite numerous efforts by other groups since that time. His development of a new synthesis of porphobilinogen from a pyridine intermediate contributed strongly to a recent revival in the study of porphyrin biosynthesis. And a rearrangement discovered by Rapoport, the oxidative reorganization of pyruvates to malonates, was used in the synthesis of β-lactams, with potential applications to antibiotic analogs.

A reaction he discovered, the Rapoport α-methylene lactam rearrangement, allows formation of highly functionalized α-methylene lactams. His development of versatile coumarin syntheses based on the Claisen rearrangement of allylic or propargylic aryl ethers was a significant improvement on previous approaches. The isolation and synthesis of several highly mutagenic compounds from cooked meats bear on possible connections between diet and cancer. And a strong recent theme has been his use of amino acids to generate iminium salts, a useful class of synthetic intermediates.

Rapoport earned B.S. and Ph.D.

degrees at Massachusetts Institute of Technology, and has been a faculty member at UC Berkeley since 1946. Honors he has received include the Research Achievement Award in Pharmaceutical & Medicinal Chemistry and an ACS Arthur C. Cope Scholar Award.

ACS Award in Chromatography

sponsored by SUPELCO Inc.

Among the leading scientists in the field of biochemical chromatography, **FRED E. REGNIER** stands out with his accomplishments. Professor of biochemistry at Purdue University, Regnier has pioneered the use of high-performance liquid chromatography for the analysis of proteins and nucleic acid. "In fact," says a colleague, "he has laid down the foundation for biopolymer HPLC, a technique that is bringing about a revolution in life sciences and enjoying wide applications in biotechnology."

Regnier received a B.S. degree in chemistry from Nebraska State College in 1960, and a Ph.D. degree from Oklahoma State University in 1965. He did postdoctoral work from 1965 to 1968 at OSU, the University of Chicago, and Harvard University. In 1969 he began his association with Purdue as assistant professor of biochemistry, and attained his present position in 1976. His contributions to his profession, although numerous, can be classed into four main areas: the development of new column packings; fundamental understanding of the macromolecular retention process; his interactions with the general scientific community; and his role as an educator.

Regnier improved on the classical soft-gel column chromatographic techniques used for the separation of biopolymers by showing how chromatographic packing materials could be made that would both increase the resolution of biopolymers and decrease separation time by as much as 60-fold. This provided better resolution and recoveries, and made the whole process more convenient and practical.

His stoichiometric displacement model of retention has been applied to both ion-exchange and reversed-phase chromatography of large molecules. This fundamental research led to the concept of using changes in chromatographic retention to examine macromolecular three-dimensional structure.

In addition to his own research, the award winner has directed many of the advances in the field of biopolymer separations. He has lectured to many diverse groups on the possible uses of high-performance protein chromatography, and this, in turn, has been a major factor in the rapid growth of this new technique. He cofounded, and participates in the annual organization of, the International Symposium on HPLC of Proteins, Peptides & Polynucleotides, now in its eighth year.

As an educator, Regnier's contributions over the past decade include training eight doctoral and seven postdoctoral scientists, the publication of 11 book chapters and reviews on HPLC of proteins, and the presentation of several courses. He is on the editorial boards of *Analytical Chemistry, Analytical Biochemistry, Journal of Liquid Chromatography, Journal of Chromatography,* and *Liquid Chromatography* magazine.

James Bryant Conant Award in High School Chemistry Teaching

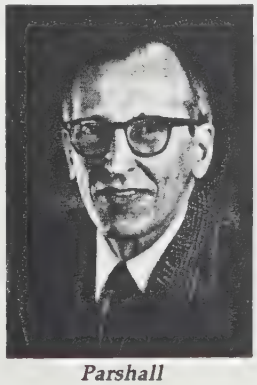
sponsored by Ethyl Corp.

A colleague of Dover High School chemistry teacher **CLIFFORD L. SCHRADER** pinpoints some of the qualities that mark his teaching: "the marvelous qualities of stimulating thinking, cultivating capabilities, and encouraging curiosity." He explains, "He sets up learning situations to compel his students to do their best thinking. He asks the right questions, listens to what his students say (and don't say), watches them working, and interprets their responses unerringly."

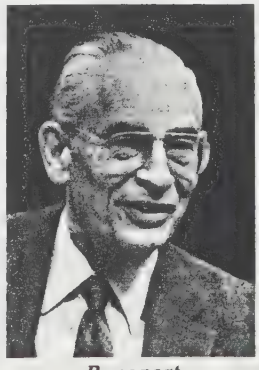
Among the extracurricular chemistry work that Schrader has supervised was the formation and running of a chemical company by his students. Under Schrader's supervision, the students formed the Chemistry Lovers Co. and each student bought shares of stock. The new stockholders held an organizational meeting, and elected company officers and managers. From then until the corporation was liquidated months later, the students handled all aspects of managing a company, from quality control problems, to pay negotiations with laborers, to safety issues.

Schrader attended Purdue University where he received a B.S. in chemistry in 1960 and M.S. and Ph.D. degrees in science education in 1965 and 1971, respectively. He worked for several chemical companies in research and product development and in chemical production before entering the teaching profession. He has taught chemistry and math at Dover High School in Dover, Ohio, for the past 24 years.

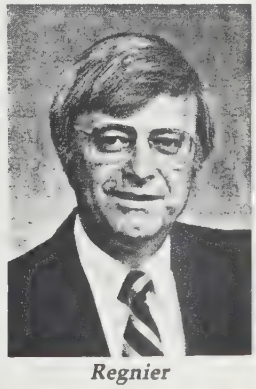
Schrader is a member of the American Chemical Society-National Science Teachers Association committee that writes and field tests a national chemistry exam every two years. He is president of SECO, the state science teachers' association, as well as president of the Association of Presidential Awardees in Sci-



Parshall



Rapoport



Regnier

Awards

As with many other ACS activities, the society's national awards program has developed closely from objectives set out in ACS's federal charter, the 50th anniversary of which is being celebrated this year. Three of those objectives are "to encourage in the broadest and most liberal manner the advancement of chemistry in all its branches; the promotion of research in chemical science and industry; [and] the improvement of the qualifications and usefulness of chemists through high standards of professional ethics, education, and attainments."

The awards program is a quite visible means for the society to help meet those objectives through recognition of outstanding individual accomplishment. Most of the ACS national awards are presented at the society's spring national meeting, and 33 of them—honoring work ranging from many subdisciplines of chemistry to computers to science journalism—will be given next month during the traditional awards ceremony and banquet at the national meeting in Denver. In addition, the Roger Adams Award in Organic Chemistry will be presented in June at the ACS Division of Organic Chemistry's summer symposium; and the Charles Lathrop Parsons Award (for public service), the Arthur C. Cope Award (for organic chemistry), and eight Arthur C. Cope Scholar Awards will be presented at the ACS national meeting in New Orleans in late August.

In all, 36 national awards are presented annually, and another six are presented less frequently. (Many local sections and divisions also sponsor separate awards of their own, in addition to which the national ACS annually honors local sections and divisions in various size categories for their outstanding performance.) More than 30 of the national awards are supported financially by corporations and nonprofit organizations. ACS dues finance three awards—the Priestley Medal, the Parsons Award, and the James T. Grady–James H. Stack Award for Interpreting Chemistry for the Public. A new award, the Alfred Bader Award in Bioinorganic or Bioorganic Chemistry, to be presented for the first time in 1988, is the only current award to be sponsored by an individual (established and financed by a gift to the society from Alfred Bader).

The oldest of all the ACS national awards—and the most prestigious—is the Priestley Medal, to recognize distinguished services to chemistry. It was first awarded in 1923. A steady stream of awards was established in the 1940s, 1950s, and 1960s. Since 1975, however, the number of awards has nearly doubled.

Almost all the awards involve a cash prize, ranging from $3000 to $15,000, with the Cope Award offering the largest value—$15,000 in cash plus a $25,000 research grant.

Behind the announcement and presentation of these awards, however, lies a multistage selection process lasting nearly two years from formation of canvassing committees to presentation of awards. Candidates for awards are nominated by individuals and are solicited each year in C&EN (for instance, C&EN, Jan. 5, page 33). To ensure that no outstanding candidate is overlooked, a canvassing committee is maintained for each award. The committee, consisting of three members appointed by the ACS president-elect, is expected to search the literature and suggest to potential nominators candidates who may have been overlooked in the public nomination process. Deadline for nominations is Feb. 1 for most awards to be presented the following year.

Nomination documents are then sent to award committees, usually comprising five experts in the field of each award, for selection of the award recipients. (However, the ACS Board selects the recipients of the Priestley Medal and the Parsons Award.) Vacancies on award committees, or juries, are filled by the current ACS president-elect. Names of committee members are not made public, nor are members informed of the identity of others on their committee. This strict confidentiality aims to prevent personal appeals for particular candidates and to assure that the awardee is chosen based solely on the nominating documents. Balloting among committee members, which is coordinated by the staff of the ACS awards office, is completed within six to eight weeks.

Award recipients are subsequently announced at the fall national ACS meeting and in C&EN, and receive their awards (usually) the following spring. Thus, activities of at least two award years are in progress at any given time.

PRIMARY ACTIVITIES

- *Recognize outstanding achievements in chemistry*
- *Encourage and stimulate further achievements in chemistry*
- *Draw attention to chemistry and chemists*

HOW FUNDED

Sponsored awards (more than 30) are supported by corporations and nonprofit organizations; three awards are supported by ACS dues; total 1987 budget $244,000

STAFF ORGANIZATION

Awards Office of the Department of Research Grants & Awards, a part of the ACS Membership Division

STAFF PERSONNEL

Two full-time persons plus two part-time; department head: Joseph E. Rogers Jr., (202) 872-4481

RELATED GOVERNANCE

Canvassing and award committees for most awards, and board Committee on Grants & Awards (chairman, Jean'ne M. Shreeve)

To

MH

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on the ACS Board. The two unsuccessful proposed nominees were J. Arthur Campbell, professor of chemistry at Harvey Mudd College, Claremont, Calif.; and John G. Verkade, professor of chemistry at Iowa State University, Ames.

The ACS Board of Directors also took action on a number of matters, including:

- Formation of a special board task force to investigate measures to improve the society's communication with its members. A staff task force also has been established with the same purpose.
- Reaffirmation of a budget increase of $148,000 next year for a new program on public understanding of chemistry.
- Approval in principle for the ACS Committee on Professional Training (which celebrated its 50th anniversary at the meeting) to pursue a program for an ACS-approved degree in chemistry with emphasis in biochemistry.
- Establishment of the Alfred Bader Award in Bioinorganic or Bioorganic Chemistry, the first presentation to be in 1988. The award will be funded by a recent gift to the society valued at more than $100,000 from Alfred R. Bader, board chairman of Sigma-Aldrich Corp., Milwaukee. That amount is enough to fund at least 20 presentations.
- Increase of $350,000 in 1986 authorization for Petroleum Research Fund grants to a total of $11.65 million, in response to an increase in proposals for Type G starter grants.

The board and council both accepted a new dues structure for student affiliates that establishes an annual dues rate of one sixth the regular member dues, rounded to the nearest dollar. Thus in 1987, student affiliate dues will be $13, up $3.00 from current dues.

Also during their meetings, the board and council presented a plaque recognizing outstanding service to Dale B. Baker, whose retirement as director of Chemical Abstracts Service became effective last week. In an unrelated action, Baker also was presented the Herman Skolnik Award, sponsored by the Division of Chemical Information, during a special award symposium. □

FROM NEW YORK

Drug-delivery systems allow variable doses

The amount of insulin released from a polymer implanted in the body can be varied in response to patient need, according to Robert Langer, professor of biochemical engineering at Massachusetts Institute of Technology. Langer described his research group's work to a symposium on recent advances in controlled-release technology sponsored by the Division of Industrial & Engineering Chemistry.

The rate of release of drugs from most implantable polymeric systems declines or at best remains constant with time. However, in some conditions it would be useful to be able to vary the release rate. In diabetes, for example, more insulin may be needed at mealtimes when glucose levels rise.

By covalently attaching the enzyme glucose oxidase to polymer beads, Langer's group developed an insulin-delivering implant system that regulates itself. Without the enzyme, the ethylene-vinyl acetate copolymer slowly releases insulin in rats over 100 days. With the bound enzyme, however, glucose diffusing into the system is converted to gluconic acid. The resulting drop in pH increases the solubility of the insulin and significantly more is released. The effect is reversible, with insulin release rates slowing as the glucose level declines.

Ultrasound also can trigger an increase in the rate at which drugs are released from biodegradable polymers such as polyanhydrides. The effect is instantaneous and can be regulated either by the frequency or the intensity of the ultrasound. The researchers envision patients wearing small ultrasound units the size of a wristwatch that could be turned on as needed.

The polymer systems have both advantages and disadvantages when compared to the small mechanical pumps that have been developed to allow diabetics to control insulin delivery rates. The polymer systems are smaller and don't require catheters, which can be a source of infection. The polymer systems can't be controlled so precisely as pumps, however, and the bound enzyme could be immunogenic. □

FROM NEW YORK

Chemists urged to take more activist role

The political process needs the help and advice of chemists and engineers. Environmental issues, particularly, have become so technically complex that "the time is ripe for a growing public-private partnership among Congress, the public, and the scientific community," Sen. Frank R. Lautenberg (D.-N.J.) told a special symposium. The session, focused on what chemists and chemical engineers can do to help make good and effective science public policy, was sponsored jointly by the ACS New York Section and the ACS Department of Government Relations & Science Policy.

"At a time when environmental programs are threatened by budget cuts and the ideology of deregulation, we need your advice," Lautenberg says. "You need to work with

Lautenberg: work with policy makers